EIC SEARCH RESULTS

Serial No. 10/612,511 – Advanced thermoplastics for orthodontics

ASRC Searcher: Ethel Leslie
Date: September 12, 2006

Inventor Search – Foreign & International Patents

Search Strategy

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Set     Items   Description
S1        170   AU=(GOLDBERG A? OR GOLDBERG, A?)
S2          7   AU=(BURSTONE C? OR BURSTONE, C?)
S3          5   S1 AND S2
S4         10   S1:S2 AND (DENTAL? OR ORTHODONTIC? OR ORTHO()DONTIC? OR AR-
                YLENE OR HETEROARYLENE)
S5          5   S4 NOT S3
? show files
File 347:JAPIO Dec 1976-2005/Dec(Updated 060404)
         (c) 2006 JPO & JAPIO
File 350:Derwent WPIX 1963-2006/UD=200657
         (c) 2006 The Thomson Corporation
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Search Results

3/5/1 (Item 1 from file: 350) * CURRENT APPLICATION *****

DIALOG(R)File 350:Derwent WPIX
(c) 2006 The Thomson Corporation. All rts. reserv.

0013942112 - Drawing available
WPI ACC NO: 2004-122471/200412
XRAM Acc No: C2004-049186
XRPX Acc No: N2004-098041

Orthodontic component useful in orthodontic appliances for moving or manipulating certain teeth to correct irregularities and/or abnormalities, has rigid backbone polymer having compatibilizing and/or solubilizing side group

Patent Assignee: UNIV CONNECTICUT (UYCO-N)
Inventor: **BURSTONE C J ; GOLDBERG A J**
Patent Family (4 patents, 101 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2004004592	A1	20040115	WO 2003US20198	A	20030626	200412	B
US 20040013994	A1	20040122	US 2002393791	P	20020703	200416	E
			US 2003612511	A	20030702		
AU 2003247718	A1	20040123	AU 2003247718	A	20030626	200459	E
EP 1539020	A1	20050615	EP 2003763026	A	20030626	200539	E
			WO 2003US20198	A	20030626		

Priority Applications (no., kind, date): US 2003612511 A 20030702; US

2002393791 P 20020703

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
WO 2004004592	A1	EN	55	28	

National Designated States,Original: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW

Regional Designated States,Original: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

US 20040013994	A1	EN	Related to Provisional US 2002393791
AU 2003247718	A1	EN	Based on OPI patent WO 2004004592
EP 1539020	A1	EN	PCT Application WO 2003US20198 Based on OPI patent WO 2004004592

Regional Designated States,Original: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR

Alerting Abstract WO A1

NOVELTY - The orthodontic component (12) has a rigid backbone polymer having compatibilizing side group and/or solubilizing side group.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1.formation of orthodontic component or its precursor; and

2.formation of orthodontic force system.

USE - Useful in orthodontic appliances for moving or manipulating certain teeth to correct irregularities and/or abnormalities.

ADVANTAGE - The novel orthodontic component has excellent tensile strength, tensile modulus, pencil hardness, mechanical properties, flexural strength and aesthetic appearance. The component is resistance to creep minimal stress relaxation and has highly scratch and abrasion resistant and good wear characteristics. The component provides greater control of orthodontic force system, has excellent bondability, flexibility in designing orthodontic force system and flexure properties.

DESCRIPTION OF DRAWINGS - The figure shows perspective view of inventive force delivery component engaged with slots of orthodontic component.

12 Orthodontic component

14 Attachment

Title Terms/Index Terms/Additional Words: ORTHODONTIC; COMPONENT; USEFUL; APPLIANCE; MOVE; MANIPULATE; TOOTH; CORRECT; IRREGULAR; ABNORMAL; RIGID; BACKBONE; POLYMER; COMPATIBLE; SOLUBLE; SIDE; GROUP

Class Codes

International Classification (Main): A61C-003/00, A61C-007/00

US Classification, Issued: 433008000

File Segment: CPI; EngPI

DWPI Class: A96; D21; P32

Manual Codes (CPI/A-M): A12-V02B; D08-A04

3/5/2 (Item 2 from file: 350)

0010433065 - Drawing available
WPI ACC NO: 2001-031878/
XRAM Acc No: C2001-009756
XRPX Acc No: N2001-024918

Cylinder for dental implant system, has shelf or shelves disposed on cylindrical body surface

Patent Assignee: BURSTONE C J (BURS-I); DUNCAN J P (DUNC-I); FREILICH M A (FREI-I); GOLDBERG A J (GOLD-I)
Inventor: **BURSTONE C J** ; DUNCAN J P; FREILICH M A; **GOLDBERG A J**

Patent Family (3 patents, 90 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2000069361	A1	20001123	WO 2000US12897	A	20000511	200104	B
AU 200050038	A	20001205	AU 200050038	A	20000511	200113	E
EP 1182987	A1	20020306	EP 2000932299	A	20000511	200224	E
			WO 2000US12897	A	20000511		

Priority Applications (no., kind, date): US 1999311464 A 19990513

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
WO 2000069361	A1	EN	36	15	

National Designated States,Original: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
Regional Designated States,Original: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 200050038	A	EN	Based on OPI patent WO 2000069361
EP 1182987	A1	EN	PCT Application WO 2000US12897 Based on OPI patent WO 2000069361

Regional Designated States,Original: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

Alerting Abstract WO A1

NOVELTY - A cylinder (10) for an implant system comprises a shelf or shelves (14, 16) disposed on a surface of the cylindrical body to retain a structural framework having a fiber-reinforced composite material.

DESCRIPTION - INDEPENDENT CLAIMS are also included for:

1.a framework for an implant system comprising the cylinders and fiber-reinforced composite material retained on the cylinders;

2.an implant system comprising abutment(s) for connection to implants, cylinder(s), and fibers reinforced composite material on the cylinders; and

3.a prosthesis comprising the implant system.

USE - The invention is useful as a component of a dental implant system which can be a single implant crown, a small prosthesis used for replacing a tooth or a few teeth, or a large prosthesis used for replacing all or a large number of teeth.

ADVANTAGE - The inventive cylinder provides an implant system having good

aesthetics and adaptability, adequate retention of fiber reinforced composite, and good fracture toughness.

DESCRIPTION OF DRAWINGS - The figure shows a perspective view of the cylinder.

10 Cylinder
14, 16 Shelves

Title Terms/Index Terms/Additional Words: CYLINDER; DENTAL; IMPLANT; SYSTEM ; SHELF; DISPOSABLE; BODY; SURFACE

Class Codes
International Classification (Main): A61C-008/00

File Segment: CPI; EngPI
DWPI Class: A96; D22; P32
Manual Codes (CPI/A-M): A12-S08D; A12-V02B; D08-A03

3/5/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0004805805
WPI ACC NO: 1989-178214/198924
XRAM Acc No: C1989-078726
XRPX Acc No: N1989-136111
Passive dental appliances - with high strength fibre reinforced composite components having thermoplastic or thermosetting polymer matrices
Patent Assignee: UNIV CONNECTICUT (UYCO-N); UNIV OF CONNECTICUT (UYCO-N)
Inventor: **BURSTONE C J ; GOLDBERG A J**
Patent Family (11 patents, 15 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 1989004640	A	19890601	WO 1988US4049	A	19881114	198924	B
AU 198927970	A	19890614				198935	E
ZA 198808310	A	19890726	ZA 19888310	A	19881107	198936	E
US 4894012	A	19900116	US 1987121178	A	19871116	199010	E
BR 198807801	A	19900807				199036	E
EP 389552	A	19901003	EP 1989900497	A	19881114	199040	E
JP 3503848	W	19910829	JP 1989500548	A	19881114	199141	E
CA 1304610	C	19920707	CA 582745	A	19881110	199233	E
EP 389552	B1	19950419	WO 1988US4049	A	19881114	199520	E
			EP 1989900497	A	19881114		
EP 389552	A4	19920513	JP 1989500555	A	19881116	199522	E
DE 3853635	G	19950524	DE 3853635	A	19881114	199526	E
			WO 1988US4049	A	19881114		
			EP 1989900497	A	19881114		

Priority Applications (no., kind, date): US 1987121178 A 19871116

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
WO 1989004640	A	EN	35	0	
National Designated States,Original: AU BR JP					
Regional Designated States,Original: AT BE CH DE FR GB IT LI LU NL SE					
ZA 198808310	A	EN			
US 4894012	A	EN	8		

BR 198807801	A	PT			
EP 389552	A	EN			
Regional Designated States,Original: BE CH DE FR GB IT LI NL SE					
CA 1304610	C	EN			
EP 389552	B1	EN	13	0	PCT Application WO 1988US4049
					Based on OPI patent WO 1989004640
Regional Designated States,Original: BE CH DE FR GB IT LI NL SE					
EP 389552	A4	EN			
DE 3853635	G	DE			PCT Application WO 1988US4049
					Application EP 1989900497
					Based on OPI patent EP 389552
					Based on OPI patent WO 1989004640

Alerting Abstract WO A

In a passive dental appliance system for use as an orthodontic retainer, bridge, space maintainer, splint etc, the improvement is that a structural component is formed from a fibre-reinforced polymer composite having the following characteristics, (i) the embedded reinforcing fibres comprise at least 20 wt% of the composite and are fully wetted by the polymer matrix; and (ii) the composite is void-free and has a modulus of elasticity above 0.5 x 10 power 6, pref (1-60) x power 6 psi.

Also claimed is a two-step method for making the appliances, involving first forming a composite (pref by moulding, extrusion or pultrustion) and then forming the composite to give a structural component of the appliance.

ADVANTAGE - The composites have a better combination of properties than previously used dental polymers, i.e. not only greater stiffness and strength but also generally higher mech properties. The polymer matrix can be of a thermoplastic or thermosetting material (claimed). Processing by the two-step process is more aesthetic and easier than for metal alloys, thereby allowing superior and unique designs.

Equivalent Alerting Abstract US A

A structural component of a passive dental appliance system, e.g. a bridge, tooth replacement appliance, is a prefabricate of (A) a polymer matrix contg. embedded (B) at least 30, esp. 40-60 wt.% reinforcing fibres which are fully wetted by the polymer matrix. The prefabricate is virtually free from voids and has an elasticity modulus above 3, pref. above 6 x 10 power6 kg/cm2.

The reinforcing fibre pref. has a dia. 0.3-25, esp. 0.3-20 micrometre and is a continuous filament or a short fibre of inorganic, natural or synthetic natural material compatible with the matrix. The polymer is e.g. polyamide, polyester glycol, polyacrylate, styrene/acrylonitrile copolymer, vinyl ester.

ADVANTAGE - The component has greater stiffness, strength and general mechanical properties than known dental polymers; it is more aesthetic, easier to process and adjust than dental metal alloys. (8pp)

Title Terms/Index Terms/Additional Words: PASSIVE; DENTAL; APPLIANCE; HIGH; STRENGTH; FIBRE; REINFORCED; COMPOSITE; COMPONENT; THERMOPLASTIC; THERMOSETTING; POLYMER; MATRIX

Class Codes

International Classification (Main): A61C-013/00
(Additional/Secondary): A61C-005/00, A61C-007/00, A61K
US Classification, Issued: 433215000, 260998110, 433006000, 433167000, 433212100, 433222100, 523115000

File Segment: CPI; EngPI
DWPI Class: A96; D21; P32
Manual Codes (CPI/A-M): A11-B09A1; A12-S08D; A12-V02B; D08-A03

3/5/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0004102705
WPI ACC NO: 1987-207664/198730
XRAM Acc No: C1987-087000
XRPX Acc No: N1987-155422
Orthodontic appliance applying corrective forces to teeth - comprises polymeric matrix of e.g. epoxy! resin reinforced with fibres of e.g. glass
Patent Assignee: GOLDBERG A J (GOLD-I); UNIV CONNECTICUT (UYCO-N)
Inventor: **BURSTONE C J ; GOLDBERG A J**
Patent Family (8 patents, 11 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
EP 230394	A	19870729	EP 1987630005	A	19870113	198730 B
AU 198767534	A	19870716				198735 E
ZA 198700224	A	19870917	ZA 1987224	A	19870113	198747 E
BR 198700111	A	19871201				198802 E
US 4717341	A	19880105	US 1986817925	A	19860113	198803 E
CA 1275834	C	19901106				199050 E
EP 230394	B	19920115	EP 1987630005	A	19870113	199203 E
DE 3775936	G	19920227				199210 E

Priority Applications (no., kind, date): US 1986817925 A 19860113

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
EP 230394	A	EN	42	3	
Regional Designated States,Original: CH DE FR GB IT SE					
ZA 198700224	A	EN			
BR 198700111	A	PT			
US 4717341	A	EN	12		
CA 1275834	C	EN			
EP 230394	B	EN		3	
Regional Designated States,Original: CH DE FR GB IT LI SE					

Alerting Abstract EP A

An orthodontic appliance system for applying corrective forces to the teeth of a patient has a force delivery component formed from a fibre reinforced composite material having a modulus of elasticity of below 30X10 power 6 psi, esp. 0.3-30 psi and a preselected ratio of yield strength to modulus of elasticity within a range from a level comparable to that of 18-8 stainless steel up to at least 300% that of such stainless steel.

The appliance is made e.g. from polymeric matrix contg. at least 5 wt.%, pref. at least 10 wt.% embedded fibres which may be continuous filaments or short fibres of inorganic, natural or synthetic organic materials. The polymer matrix is of thermoplastic or thermosetting material such as polyamides, polyesters, polyester glycols, polycarbonates, polyolefins, polyarylates, polyurethanes, polyacetals, polyarylsulphides, polysulphones or epoxy resin.

Pref. materials contain 5-80% short fibre and exhibit a modulus of

elasticity of up to ca. 5x10 power 6 psi, or they contain continuous filaments and exhibit a modulus of elasticity of 1.5 x 10 power 6 to 25 x 10 power 6 psi. Pref. the fibres are dispersed throughout the matrix and have a predominant orientation sufficient to effectively resist the max. torque applied by the force delivery component.

ADVANTAGE - More constant force levels can be applied with time and a continuous range of stiffness is achieved. The material has a higher max. elastic deflection than the stainless steel and an ability to provide complex orthodontic configurations so as to enhance and ease the accuracy of force delivery.

Equivalent Alerting Abstract US A

An orthodontic appliance system for applying corrective forces to the teeth of a patient has a force delivery component formed from a fibre reinforced composite material having a modulus of elasticity of below 30X10 power 6 psi, esp. 0.3-30 psi and a preselected ratio of yield strength to modulus of elasticity within a range from a level comparable to that of 18-8 stainless steel up to at least 300% that of such stainless steel. The appliance is made e.g. from polymeric matrix contg. at least 5 wt.%, pref. at least 10 wt% embedded fibres which may be continuous filaments or short fibres of inorganic, natural or synthetic organic materials. The polymer matrix is of thermoplastic or thermosetting material such as polyamides, polyesters, polyester glycols, polycarbonates, polyolefins, polyarylates, polyurethanes, polyacetals, polyarylsulphides, polysulphones or epoxy resin. Pref. materials contain 5-80% short fibre and exhibit a modulus of elasticity of up to ca. 5x10 power 6 psi, or they contain continuous filaments and exhibit a modulus of elasticity of 1.5 x 10 power 6 to 25x10 power 6 psi. Pref. the fibres are dispersed throughout the matrix and have a predominant orientation sufficient to effectively resist the max. torque applied by the force delivery component.

USE/ADVANTAGE - More constant force levels can be applied with time and a continuous range of stiffness is achieved. The material has a higher max. elastic deflection than the stainless steel and an ability to provide complex othodonic configurations so as to enhance and ease the accuracy of force delivery. (12pp)r

Title Terms/Index Terms/Additional Words: ORTHODONTIC; APPLIANCE; APPLY; CORRECT; FORCE; TOOTH; COMPRISE; POLYMERISE; MATRIX; POLYEPOXIDE; RESIN; REINFORCED; FIBRE; GLASS

Class Codes

International Classification (Main): A61C-003/00
(Additional/Secondary): A61C-007/00
US Classification, Issued: 433009000, 428238000, 428373000, 433022000, 433222100

File Segment: CPI; EngPI
DWPI Class: A28; A96; D21; P32
Manual Codes (CPI/A-M): A12-S08D; A12-V03C1; D08-A03

3/5/5 (Item 5 from file: 350)

0001747453
WPI ACC NO: 1979-72072B/

Orthodontic device made of beta-titanium alloy wire - with better bendability and strength to elasticity modulus than stainless steel

Patent Assignee: UNIV CONNECTICUT (UYCO-N)
Inventor: **BURSTONE C J ; GOLDBERG A J**

Patent Family (6 patents, 4 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
DE 2910021	A	19790927	DE 2910021	A	19790314	197940 B
FR 2419715	A	19791116				198001 E
US 4197643	A	19800415	US 1978886430	A	19780314	198017 E
DE 2910021	C	19870611	DE 2910021	A	19790314	198723 E
JP 54129797	A	19791008				198820 E
JP 1988020141	B	19880426				198820 E

Priority Applications (no., kind, date): DE 2910021 A 19790314; US 1978886430 A 19780314

Alerting Abstract DE A

The orthodontic device has a force-applying wire of 0.1-2.0mm dia. made of a room temp.-stabilised beta Ti alloy having a modulus of elasticity significantly below 1.38 x 106 bar and a yield strength/elasticity modulus ratio 0-80% greater than that of a stress-relieved 18/8 stainless steel wire of the same dia., so that the wire applies a low constant force over a long period and the useful life of the device is improved. The wire has a higher max. elastic bending to the bending limit than stainless steel wire so that it can undergo extensive bending into complex orthodontic configurations.

The wire is useful for ligature wires, braces and similar components in orthodontic and prosthetic devices and for surgical arch wires for jaw fractures, etc.

Title Terms/Index Terms/Additional Words: ORTHODONTIC; DEVICE; MADE; BETA; TITANIUM; ALLOY; WIRE; BEND; STRENGTH; ELASTIC; MODULUS; STAINLESS; STEEL ; MOLYBDENUM; NIOBIUM; VANADIUM; TANTALUM

Class Codes

International Classification (Main): A61C-007/00
(Additional/Secondary): C22C-014/00, H01L-007/58
US Classification, Issued: 433020000, 148407000, 420420000, 420421000

File Segment: CPI; EngPI
DWPI Class: D21; M26; P32
Manual Codes (CPI/A-M): D08-A; D09-C01; M26-B06
?

5/5/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0015948644 - Drawing available
WPI ACC NO: 2006-480311/200649
XRAM Acc No: C2006-151462
XRPX Acc No: N2006-390565

Orthodontic **appliance such as ligature, is not removable aligner appliance and comprises shape memory polymer chosen from castable, thermoplastic blend and polyurethane shape memory polymers, liquid crystalline polymers and polycyclooctene**

Patent Assignee: BURSTONE C J (BURS-I); LIU C (LIUC-I); MATHER P T (MATH-I); UNIV CONNECTICUT (UYCO-N)
Inventor: **BURSTONE C J** ; LIU C; MATHER P T
Patent Family (2 patents, 111 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
WO 2006071520	A2	20060706	WO 2005US45073	A	20051212	200649 B
US 20060154195	A1	20060713	US 2004635199	P	20041210	200649 E
			US 2005301795	A	20051212	

Priority Applications (no., kind, date): US 2005301795 A 20051212; US 2004635199 P 20041210
Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
WO 2006071520	A2	EN	58	14	

National Designated States,Original: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KN KP KR KZ LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
Regional Designated States,Original: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IS IT KE LS LT LU LV MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW
US 20060154195 A1 EN Related to Provisional US 2004635199

Alerting Abstract WO A2

NOVELTY - **Orthodontic** appliance which is not removable aligner appliance, comprises shape memory polymer. The shape memory polymer is chosen from specific castable shape memory polymer, crosslinked polycyclooctene, and specific thermoplastic blend shape memory polymer, polyurethane shape memory polymer formed by reacting polyol, chain extender dihydroxyl-terminated polyhedral silsesquioxane and diisocyanate, and crosslinked liquid crystalline polymers.

DESCRIPTION - An **orthodontic** appliance or component comprises a shape memory polymer. The shape memory polymer is selected from a castable shape memory polymer, a crosslinked polycyclooctene, a thermoplastic blend shape memory polymer having Tg of higher than room temperature and whose rubber modulus and elasticity are derived from physical crosslinks, a polyurethane shape memory polymer formed by reacting a polyol, a chain extender dihydroxyl-terminated polyhedral silsesquioxane and diisocyanate, and crosslinked liquid crystalline polymers. The thermoplastic blend shape memory polymer comprises a blend of a crystalline polymer selected from poly(vinylidene fluoride), polyglycolides, polylactide and copolymers, poly(hydroxy butyrate), poly(ethylene glycol), polyethylene, polyethylene-co-vinyl acetate, poly(vinyl chloride), poly(vinylidene chloride) and copolymers of polyvinylidene chloride and polyvinyl chloride with an amorphous polymer selected from poly(vinyl acetate), poly methyl acrylate, poly ethyl acrylate, atactic poly methyl methacrylate, isotactic poly methyl methacrylate and syndiotactic poly methyl methacrylate. The castable shape memory polymer is formed by reacting a monomer which forms a polymer of high glass transition temperature (Tg), a monomer which forms a polymer of low Tg and a multifunctional cross linking agent. The **orthodontic** appliance is not a removable aligner appliance. An INDEPENDENT CLAIM is included for method of making **orthodontic** appliance, which involves preparing above **orthodontic** appliance, by profile extrusion, injection molding, die cutting, casting, dip-coating, compression molding, blow-molding, rotational molding, rapid prototyping, and/or solid freeform

fabrication.
USE - such as ligature, self-ligating bracket, force module and torque module,
ADVANTAGE - The **orthodontic** appliance has favorable stain resistance particularly with respect to food such as tea, coffee, wine, and grape juice, and has favorable moisture absorption and mechanical properties. The **orthodontic** appliance is transparent and colorless.
DESCRIPTION OF DRAWINGS - The figure shows the shape memory polymer permanent shape ligature.
10 arch wire
20 bracket
30 shape memory polymer ligature

Title Terms/Index Terms/Additional Words: **ORTHODONTIC** ; APPLIANCE; LIGATURE; REMOVE; ALIGN; COMPRISE; SHAPE; MEMORY; POLYMER; CHOICE; CAST; THERMOPLASTIC; BLEND; POLYURETHANE; LIQUID; CRYSTAL

Class Codes
International Classification (+ Attributes)

IPC + Level	Value	Position	Status	Version
A61C-0003/00	A	I	F	B 20060101
A61C-0007/00	A	I	L	B 20060101
A61F-0002/00	A	I	L	B 20060101
A61L-0027/00	A	I	L	B 20060101
A61L-0029/00	A	I	L	B 20060101
A61L-0031/00	A	I	L	B 20060101
C08L-0101/00	A	I	L	B 20060101
C08L-0005/00	A	I	F	B 20060101
F03G-0007/00	A	I	L	B 20060101

US Classification, Issued: 433006000

File Segment: CPI; EngPI
DWPI Class: A96; D21; P32; P34; Q54
Manual Codes (CPI/A-M): A09-A05B; A12-V03C1; D08-A04

5/5/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0015456995 - Drawing available
WPI ACC NO: 2006-016873/200602
XRAM Acc No: C2006-004977
XRPX Acc No: N2006-014759
Implant system, e.g. dental **implant, includes suprastructure comprising denture teeth and denture base comprising resin materials, substructure comprising framework including resin material, abutment, and implant**
Patent Assignee: FREILICH M A (FREI-I); GOLDBERG A J (GOLD-I); MEIERS J C (MEIE-I)
Inventor: FREILICH M A; **GOLDBERG A J** ; MEIERS J C
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 20050214717	A1	20050929	US 2004552182	P	20040311	200602 B
			US 200578600	A	20050311	

Priority Applications (no., kind, date): US 2004552182 P 20040311; US

200578600 A 20050311

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20050214717	A1	EN	11	11	Related to Provisional US 2004552182

Alerting Abstract US A1

NOVELTY - An implant system comprises a suprastructure (24) comprising denture teeth including a second resin material and denture base comprising a third resin material, a substructure comprising a framework comprising first resin material, an abutment, and an implant.

DESCRIPTION - An implant system comprises a suprastructure; a substructure comprising a framework and cylinders (28); an abutment; and an implant; where the framework comprises a first resin material; where the suprastructure comprises denture teeth and a denture base; where the denture teeth comprise a second resin material; where the denture base comprises a third resin material; where the substructure and suprastructure are bonded to each other with an adhesive resin, where the first resin material, third resin material, and adhesive resin each comprise a functional group that is similar to or the same as the functional group used in each resin. An INDEPENDENT CLAIM is also included for a method of making an implant system comprising:

1.making a suprastructure;

2.fitting the suprastructure in the patient's mouth to make a bite registration between the suprastructure and the opposing arch;

3.using the suprastructure as an impression tray to record the position of implants in a patient's mouth and to provide an impression of the implants;

4.using the impression to make a master cast having implant analogs;

5.making a substructure using the master cast;

6.positioning the suprastructure on the substructure; and

7.applying adhesive resin between the suprastructure and the substructure to bond the suprastructure to the substructure.

USE - The invention is used as, e.g. **dental** implant.

ADVANTAGE - The invention provides strong denture teeth to withstand the stresses in a patient's mouth, adheres strongly to the denture base without the need to grind or machine the teeth to create mechanical retention, and minimizes or eliminates full arch FRC implant prosthesis distortion.

DESCRIPTION OF DRAWINGS - The figure shows a top perspective view of the substructure.

24 Substructure

26 Fiber reinforced composite material

28 Cylinders

Title Terms/Index Terms/Additional Words: IMPLANT; SYSTEM; **DENTAL** ; COMPRISE; DENTURE; TOOTH; BASE; RESIN; MATERIAL; SUBSTRUCTURE; FRAMEWORK; ABUT

Class Codes

International Classification (Main): A61C-008/00
(Additional/Secondary): A61C-013/12
US Classification, Issued: 433180000, 433173000

File Segment: CPI; EngPI
DWPI Class: A18; A28; A96; D21; D22; P32
Manual Codes (CPI/A-M): A12-V02B; D08-A03; D09-C01

5/5/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0014730450 - Drawing available
WPI ACC NO: 2005-078071/
Related WPI Acc No: 2001-182085; 2002-074620; 2002-655589
XRAM Acc No: C2005-027441
XRPX Acc No: N2005-068470
Prefabricated block for use in computer aided design system for manufacture of dental **appliance, comprises fiber-reinforced composite material comprising fibers dispersed in thermoplastic matrix material, where fibers have specific length**
Patent Assignee: GOLDBERG A J (GOLD-I); KARMAKER A (KARM-I); MATHER P T (MATH-I); PRASAD A (PRAS-I); ROJANAPITAYAKORN P (ROJA-I); WEISS R A (WEIS-I)
Inventor: **GOLDBERG A J** ; KARMAKER A; MATHER P T; PRASAD A; ROJANAPITAYAKORN P; WEISS R A
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 20040241614	A1	20041202	US 199859492	A	19980413	200509 B
			US 1998190806	A	19981112	
			US 1999344089	A	19990625	
			US 200129782	A	20011026	
			US 2003744282	A	20031222	

Priority Applications (no., kind, date): US 200129782 A 20011026; US 1999344089 A 19990625; US 1998190806 A 19981112; US 199859492 A 19980413; US 2003744282 A 20031222

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20040241614	A1	EN	18	22	C-I-P of application US 199859492 C-I-P of application US 1998190806 Continuation of application US 1999344089 C-I-P of application US 200129782 C-I-P of patent US 6186790 Continuation of patent US 6345984

Alerting Abstract US A1
NOVELTY - A prefabricated block for use in computer aided design (CAD)/CAM (sic) system for the manufacture of a **dental** appliance, comprises a fiber-reinforced composite material comprising fibers dispersed in a thermoplastic matrix material, where the fibers are less than 15 mm in length, the fibers are not fully aligned in one direction, and the fibers are randomly dispersed in a section of the block.

DESCRIPTION - AN INDEPENDENT CLAIM is also included for a method of making a **dental** appliance, comprising providing a prefabricated block of material; and machining the block into the **dental** appliance.

USE - The invention is for use in computer aided design (CAD)/CAM (sic) system for the manufacture of a **dental** appliance, e.g. **orthodontic** retainers, bridges, space maintainers, tooth replacement appliances, splints, crowns, partial crowns, dentures, posts, teeth, jackets, inlays, onlays, facings, veneers, facets, implants, abutments, retainers, cylinders, or connectors. It is provided in the shape of a pontic or bar. (all claimed)

ADVANTAGE - The process of fabricating **dental** appliance is simplified, reducing time and labor involved in the preparation process, and providing appliances having optimum properties. The risk of contamination during the fabrication of **dental** appliances is reduced. Strength of **dental** appliances is maintained, without sacrificing aesthetic and light transmission properties.

DESCRIPTION OF DRAWINGS - The figure is a perspective view of a bar.
14 Rectangular cross-section

Title Terms/Index Terms/Additional Words: PREFABRICATED; BLOCK; COMPUTER; AID; DESIGN; SYSTEM; MANUFACTURE; **DENTAL** ; APPLIANCE; COMPRISE; REINFORCED; COMPOSITE; MATERIAL; FIBRE; DISPERSE; THERMOPLASTIC; MATRIX; SPECIFIC; LENGTH

Class Codes
International Classification (Main): A61C-013/08
(Additional/Secondary): B29B-007/00
US Classification, Issued: 433202100, 428542800

File Segment: CPI; EngPI; EPI
DWPI Class: A18; A28; A96; D21; T01; P32
Manual Codes (EPI/S-X): T01-J06A; T01-J15X
Manual Codes (CPI/A-M): A12-V02B; D08-A

5/5/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0013658447 - Drawing available
WPI ACC NO: 2003-754628/200371
XRAM Acc No: C2003-207007
XRPX Acc No: N2003-604599
Ready-to-use component, e.g. unit pontic, used in fabrication of dental **appliance system, e.g. retainers, includes hybrid component having fiber-reinforced composite material comprising polymeric matrix, and reinforcing fiber component**
Patent Assignee: UNIV CONNECTICUT (UYCO-N)
Inventor: FREILICH M A; **GOLDBERG A J** ; MEIERS J C
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 6599125	B1	20030729	US 1999151003	P	19990827	200371	B
			US 2000645951	A	20000825		

Priority Applications (no., kind, date): US 1999151003 P 19990827; US 2000645951 A 20000825

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6599125	B1	EN	16	24	Related to Provisional US 1999151003

Alerting Abstract US B1

NOVELTY - A ready-to-use component (I) comprises a one-piece hybrid component having >=2 sections of prefabricated preshaped fiber-reinforced composite material comprising a polymeric matrix and a reinforcing fiber component, where at least one of the sections is cured or uncured.

DESCRIPTION - INDEPENDENT CLAIMS are also included for:

1.An implant system comprising (I);

2.A kit for the fabrication of a dental appliance comprising (I); and

3.A method for making a dental restoration for direct or indirect application to a patient's mouth, comprising providing (I), applying a bonding agent to patient's teeth proximate an area for insertion of the component, removing a protective cover from an uncured section, inserting the ready-to-use component in the patient's mouth, and bonding the uncured sections to the patient's teeth.

USE - The component is used in a **dental** restoration and in the fabrication of a **dental** appliance system, e.g. **orthodontic** retainers, bridges, space maintainers, tooth replacement appliances, splints, crowns, partial crowns, dentures, posts, teeth, jackets, inlays, onlays, facings, veneers, facets, implants, cylinders, abutments, pins, and connectors (claimed).

ADVANTAGE - The component reduces time and labor involved in the preparation process, and reduces the risk of contamination during the fabrication. It maintains strength of **dental** appliances without sacrificing aesthetic and light transmitting properties.

DESCRIPTION OF DRAWINGS - The figures show a front elevational view and a top plan view of the multi-unit pontic.

Title Terms/Index Terms/Additional Words: READY; COMPONENT; UNIT; PONTIC; FABRICATE; **DENTAL** ; APPLIANCE; SYSTEM; RETAIN; HYBRID; REINFORCED; COMPOSITE; MATERIAL; COMPRISE; POLYMERISE; MATRIX

Class Codes

International Classification (Main): A61C-013/08
US Classification, Issued: 433212100, 433180000

File Segment: CPI; EngPI
DWPI Class: A96; D21; P32
Manual Codes (CPI/A-M): A08-R01; A12-V02B; D08-A03

5/5/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0009592385 - Drawing available
WPI ACC NO: 1999-540868/199945
XRAM Acc No: C1999-158081
Pseudo-elastic nickel free beta titanium alloy used for medical purposes

Patent Assignee: MEMRY CORP (MEMR-N)
Inventor: **BURSTONE C J** ; LEI C; LEI C Y; LOI C; SCHETKY L M; WU M H
Patent Family (6 patents, 22 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
WO 1999045161	A1	19990910	WO 1999US4901	A	19990305	199945 B
EP 1062374	A1	20001227	EP 1999912298	A	19990305	200102 E
			WO 1999US4901	A	19990305	
US 6258182	B1	20010710	US 199876922	P	19980305	200141 E
			US 1999263658	A	19990305	
KR 2001041604	A	20010525	KR 2000709801	A	20000904	200168 E
JP 2002505382	W	20020219	WO 1999US4901	A	19990305	200216 E
			JP 2000534692	A	19990305	
US 6419358	B1	20020716	US 199876922	P	19980305	200248 E
			US 1999263658	A	19990305	
			US 1999449068	A	19991124	

Priority Applications (no., kind, date): US 1999449068 A 19991124; US 1999263658 A 19990305; US 199876922 P 19980305

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
WO 1999045161	A1	EN	24	15	
National Designated States,Original: JP KR					
Regional Designated States,Original: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
EP 1062374	A1	EN			PCT Application WO 1999US4901 Based on OPI patent WO 1999045161
Regional Designated States,Original: AT BE CH DE DK FI FR GB IE IT LI NL SE					
US 6258182	B1	EN			Related to Provisional US 199876922
JP 2002505382	W	JA	35		PCT Application WO 1999US4901 Based on OPI patent WO 1999045161
US 6419358	B1	EN			Related to Provisional US 199876922 C-I-P of application US 1999263658 C-I-P of patent US 6258182

Alerting Abstract WO A1

NOVELTY - Nickel-free beta titanium alloy exhibits pseudo-elasticity at -25 to -50(deg)C due to formation and reversion of stress-induced martensite.

DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for making a nickel-free beta titanium alloys by alloying 10.0-12.0 wt. % molybdenum, 2.8-4.0 wt. % aluminum, 0.0-2.0 wt. % chromium and vanadium and 0.0-4.0 wt. % niobium with the balance titanium.

USE - The alloy is used for medical uses including **orthodontic** arch wire, springs, implants or endodontic files, eyeglasses, within a living body e.g. stents, catheter introducers, oral pins or plate in maxillofacial reconstruction, oviduct clamps and bone staples.

ADVANTAGE - The pseudo-elastic alloy has shape memory characteristics, good spring-back, comparable to **TMA ** (RTM) low stiffness, similar to nitinol, good formability and good corrosion resistance.

DESCRIPTION OF DRAWINGS - The drawing shows the effect of cold work on the pseudo-elastic strain of alloy according to the invention.

Title Terms/Index Terms/Additional Words: PSEUDO; ELASTIC; NICKEL; FREE; BETA; TITANIUM; ALLOY; MEDICAL; PURPOSE

Class Codes

International Classification (Main): C22C-014/00, G02C-005/16
(Additional/Secondary): A61C-007/20, A61C-008/00, C22F-001/18
US Classification, Issued: 148402000, 148421000, 148671000, 420418000, 420420000, 351114000, 351041000, 351126000

File Segment: CPI; EngPI
DWPI Class: M26; M29; P32; P81
Manual Codes (CPI/A-M): M26-B06; M26-B06A; M26-B06M; M29-B
?

Inventor Search – NPL

Search Strategy

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Set     Items   Description
S1       7444   AU=(GOLDBERG A? OR GOLDBERG, A?)
S2        276   AU=(BURSTONE C? OR BURSTONE, C?)
S3         42   S1 AND S2
S4         25   RD  (unique items)
S5        333   S1:S2 AND (DENTAL? OR ORTHODONTIC? OR ORTHO()DONTIC? OR AR-
              YLENE OR HETEROARYLENE)
S6          0   S1:S2 AND (DENTAL? OR ORTHODONTIC? OR ORTHO()DONTIC?) AND -
              (ARYLENE OR HETEROARYLENE OR (RIGID()(BACKBONE OR BACK()BONE)-
              ()POLYMER?) OR (THERMOPLASTIC? OR THERMO()PLASTIC?)()POLYMER?)

File 155:MEDLINE(R) 1950-2006/Sep 11
         (c) format only 2006 Dialog
File  73:EMBASE 1974-2006/Sep 11
         (c) 2006 Elsevier B.V.
File   5:Biosis Previews(R) 1969-2006/Sep W1
         (c) 2006 The Thomson Corporation
File  34:SciSearch(R) Cited Ref Sci 1990-2006/Sep W1
         (c) 2006 The Thomson Corp
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 2006 The Thomson Corp
File 399:CA SEARCH(R) 1967-2006/UD=14512
         (c) 2006 American Chemical Society
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Search Results

4/5/1 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
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14227296 PMID: 12651928
Shear in flexure of fiber composites with different end supports.
Eckrote K A; **Burstone C J** ; Freilich M A; Messer G E; **Goldberg A J**
Center for Biomaterials, MC-1615, School of Dental Medicine, University of Connecticut Health CEnter, Farmington, 06030, USA.
Journal of dental research (United States) Apr 2003, 82 (4) p262-6, ISSN 0022-0345--Print Journal Code: 0354343
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: DENTAL; INDEX MEDICUS
The integrity of fiber-reinforced composite (FRC) prostheses is dependent, in part, on flexural rigidity. The object of this study was to determine if the flexure behavior of uniform FRC beams with restrained or simply supported ends and various length/depth (L/d) aspect ratios could be more accurately modeled by correcting for shear. Experimental results were compared with three analytical models. All models were accurate at high L/d

ratios, but the shear-corrected model was accurate to the lowest, more clinically relevant, L/d values. In this range, more than 40% of the beam deflection was due to shear.
Descriptors: *Composite Resins; *Dental Stress Analysis; *Denture, Partial, Fixed; Denture Design; Elasticity; Materials Testing; Pliability; Research Support, Non-U.S. Gov't; Shear Strength
CAS Registry No.: 0 (Composite Resins); 0 (FiberKor, sculpture)
Record Date Created: 20030324
Record Date Completed: 20030423

4/5/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

11930791 PMID: 9760363
Development and clinical applications of a light-polymerized fiber-reinforced composite.
Freilich M A; Karmaker A C; **Burstone C J ; Goldberg A J**
University of Connecticut School of Dental Medicine, Farmington, USA.
Journal of prosthetic dentistry (UNITED STATES) Sep 1998, 80 (3) p311-8, ISSN 0022-3913--Print Journal Code: 0376364
Contract/Grant No.: DE-09126; DE; NIDCR
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: DENTAL; INDEX MEDICUS
STATEMENT OF PROBLEM: After 0 years of intermittent reports in the literature, the use of fiber reinforcement is just now experiencing rapid expansion in dentistry. PURPOSE: This article describes the development and use of a continuous, unidirectional fiber reinforced composite as a framework for the fabrication of fixed prostheses. METHODS: By using various matrix materials and fibers, a number of fiber-reinforced composite formulations were evaluated with the goal of creating a system with optimized mechanical properties and handling characteristics. Fiber-reinforced composite based on a light polymerized BIS-GMA matrix has been used clinically to make 2-phase prostheses comprised of an internal glass fiber-reinforced composite substructure covered by a particulate composite. The clinical and laboratory procedures required for the fabrication and use of reinforced composite fixed prostheses are described for laboratory-fabricated complete or partial coverage fixed prosthesis and chairside prosthesis. RESULTS: Although additional clinical experience is needed, fiber-reinforced composite materials can be used to make metal-free prostheses with excellent esthetic qualities.
Descriptors: *Composite Resins--chemistry--CH; *Denture, Partial, Fixed; Bisphenol A-Glycidyl Methacrylate--chemistry--CH; Comparative Study; Denture Design; Humans; Materials Testing; Metal Ceramic Alloys; Pliability ; Polymers--chemistry--CH; Polymethyl Methacrylate--chemistry--CH; Research Support, U.S. Gov't, P.H.S.; Viscosity
CAS Registry No.: 0 (Composite Resins); 0 (FiberKor, sculpture); 0 (Metal Ceramic Alloys); 0 (Polymers); 0 (splint-It, FRC material); 1565-94-2 (Bisphenol A-Glycidyl Methacrylate); 9011-14-7 (Polymethyl Methacrylate)
Record Date Created: 19981118
Record Date Completed: 19981118

4/5/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

10070729 PMID: 8207027
Screening of matrices and fibers for reinforced thermoplastics intended for dental applications.
Goldberg A J ; Burstone C J ; Hadjinikolaou I; Jancar J
Department of Prosthodontics, School of Dental Medicine, University of Connecticut Health Center, Farmington 06030.
Journal of biomedical materials research (UNITED STATES) Feb 1994, 28 (2) p167-73, ISSN 0021-9304--Print Journal Code: 0112726
Contract/Grant No.: DE-09126; DE; NIDCR
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: INDEX MEDICUS
Plastics reinforced with continuous fibers (FRC) are being developed for dental applications, such as prosthodontic frameworks and orthodontic retainers. Flexure properties, stress relaxation and hydrolytic stability of FRC based on six thermoplastic matrices, three types of fibers, and three fiber volume fractions were evaluated. Samples with clinically relevant dimensions were tested. Polycarbonate was the preferred matrix material. Polycarbonate reinforced with 42 volume percent glass fibers exhibited the highest combination of flexure modulus (17.9 +/- 2.6 GPa), flexure strength (426 +/- 40 MPa), reinforcing efficiency (0.79), and resistance to stress relaxation. No statistically significant difference was observed between E and S2 glass reinforced composites under the experimental conditions used. Kevlar reinforced materials exhibited a low flexure modulus and strength. The apparent flexure moduli of all composites decreased with span length in the range of clinical interest. Generally, the prevalent mode of failure for all FRC investigated was brittle failure under flexure loading. Relatively large sample-to-sample variation in both composition and properties indicated that improved fabrication methods will be needed in future studies. The combination of good flexure properties, formability, and translucency suggests that novel appliance designs for dentistry are feasible with FRC, but further studies of its properties and particularly the effects of fiber/matrix interfacial quality are needed.
Descriptors: *Dental Materials--standards--ST; *Glass; *Materials Testing ; *Plastics; Comparative Study; Research Support, Non-U.S. Gov't; Research Support, U.S. Gov't, P.H.S.; Stress, Mechanical; Tensile Strength
CAS Registry No.: 0 (Dental Materials); 0 (Glass); 0 (Plastics)
Record Date Created: 19940712
Record Date Completed: 19940712

4/5/4 (Item 4 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

09993855 PMID: 8120839
Longitudinal clinical evaluation of fiber-reinforced composite fixed partial dentures: a pilot study.

Altieri J V; **Burstone C J** ; **Goldberg A J** ; Patel A P
Department of Prosthodontics, School of Dental Medicine, University of Connecticut Health Center, Farmington.
Journal of prosthetic dentistry (UNITED STATES) Jan 1994, 71 (1) p16-22, ISSN 0022-3913--Print Journal Code: 0376364
Contract/Grant No.: DE-09126; DE; NIDCR
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: DENTAL; INDEX MEDICUS
This report describes a clinical pilot study that monitored a group of 12 patients who have received 14 single tooth replacement experimental restorations made with prefabricated continuous fiber-reinforced composite (FRC) frameworks. Because these restorations represent a purely adhesive restorative system, tooth preparation was not performed. The Kaplan-Meier survival probability at 12 months was approximately 50%. The restoration with the longest service life was a mandibular molar replacement that has remained in service 24 months. With improved survival times, bonded FRC definitive restorations should be plausible.
Tags: Female; Male
Descriptors: *Composite Resins--chemistry--CH; *Denture Design; *Denture, Partial, Fixed; Adult; Aged; Aged, 80 and over; Crowns; Dental Abutments; Dental Bonding; Evaluation Studies; Glass--chemistry--CH; Humans; Longitudinal Studies; Methylmethacrylates--chemistry--CH; Middle Aged; Pilot Projects; Polycarboxylate Cement--chemistry--CH; Prosthesis Failure; Research Support, U.S. Gov't, P.H.S.; Surface Properties; Time Factors
CAS Registry No.: 0 (Composite Resins); 0 (Glass); 0 (Methylmethacrylates); 0 (Polycarboxylate Cement); 25766-59-0 (polycarbonate)
Record Date Created: 19940404
Record Date Completed: 19940404

4/5/5 (Item 5 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
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09347123 PMID: 1387855
The use of continuous fiber reinforcement in dentistry.
Goldberg A J ; **Burstone C J**
School of Dental Medicine, University of Connecticut Health Center, Farmington.
Dental materials - official publication of the Academy of Dental Materials (DENMARK) May 1992, 8 (3) p197-202, ISSN 0109-5641--Print Journal Code: 8508040
Contract/Grant No.: DE09126; DE; NIDCR
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: DENTAL
Fiber-reinforced composite (FRC) formulations were developed to serve as structural components for various dental appliances such as prosthodontic frameworks, retainers and splints. Poly(ethylene terephthalate glycol) and

poly(1,4-cyclohexylene dimethylene terephthalate glycol) reinforced with continuous S-2 glass fibers were pultruded into continuous lengths with small rectangular cross sections. The microstructure was evaluated with SEM and optical microscopy. Fiber content and flexure properties were measured and compared to previous results by other authors. The present FRC contained 43-45 volume % fiber, which compared favorably with the 5-15 volume % fiber reported by all earlier investigators of dental FRC. The present materials achieved 65% of the theoretically expected modulus, in contrast to the typical value of 40% calculated in the earlier reports. The flexural strength and modulus of the experimental FRC were approximately 565 MPa and 20 GPa, respectively. The present FRC can be formed into individualized devices, and free fibers need not be manipulated by the operator. The improved properties and handling justify further study of these FRC as structural dental materials.

Descriptors: *Composite Resins--chemistry--CH; Carbon; Comparative Study; Elasticity; Glass; Materials Testing; Polyethylene Terephthalates; Research Support, Non-U.S. Gov't; Research Support, U.S. Gov't, P.H.S.; Tensile Strength

CAS Registry No.: 0 (Composite Resins); 0 (Glass); 0 (Polyethylene Terephthalates); 0 (carbon fiber); 0 (fiberglass); 7440-44-0 (Carbon)

Record Date Created: 19921015

Record Date Completed: 19921015

4/5/6 (Item 6 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

07442662 PMID: 2888304

Optimal welding of beta titanium orthodontic wires.

Nelson K R; **Burstone C J ; Goldberg A J**

American journal of orthodontics and dentofacial orthopedics - official publication of the American Association of Orthodontists, its constituent societies, and the American Board of Orthodontics (UNITED STATES) Sep 1987, 92 (3) p213-9, ISSN 0889-5406--Print Journal Code: 8610224

Contract/Grant No.: DE-03953; DE; NIDCR; DE-05321; DE; NIDCR

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: DENTAL; INDEX MEDICUS

Today the orthodontist is confronted by an array of new orthodontic wire materials that, when applied to appliance design, can vastly increase the flexibility and versatility of therapy. Welded joints, especially for the newer titanium alloy wires, provide a means to extend the useful applications of these materials. The purpose of this study was to determine the optimum settings for electrical resistance welding of various configurations of titanium-molybdenum (TMA) wires. Specimens were of a t-joint configuration and were mechanically tested in torsion to simulate the failure mode most often observed in clinical practice. Variables included wire size, wire orientation, and welding voltage. Results indicated that excellent welds can be obtained with very little loss of strength and ductility in the area of the weld joint. Torsional loads at failure were at least 90% of the unwelded base material. Although a wide range of voltage settings resulted in high-strength welds, typically a narrow range of voltages yielded optimal ductility.

Descriptors: *Dental Alloys; *Dental Soldering; *Orthodontic Appliances; *Orthodontic Wires; *Titanium; *Welding; Dental Soldering--instrumentation --IS; Elasticity; Equipment Failure; Materials Testing; Metallurgy; Research Support, U.S. Gov't, P.H.S.; Stress, Mechanical; Welding --instrumentation--IS

CAS Registry No.: 0 (Dental Alloys); 0 (beta titanium); 7440-32-6 (Titanium)

Record Date Created: 19871006

Record Date Completed: 19871006

4/5/7 (Item 7 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

06139918 PMID: 6576645

Maximum forces and deflections from orthodontic appliances.

Burstone C J ; Goldberg A J

American journal of orthodontics (UNITED STATES) Aug 1983, 84 (2) p95-103, ISSN 0002-9416--Print Journal Code: 0370501

Contract/Grant No.: DE-03953; DE; NIDCR; DE-05321; DE; NIDCR

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: DENTAL; INDEX MEDICUS

The maximum bending moment of an orthodontic wire is an important parameter in the design and use of an orthodontic appliance. It is the wire property that determines how much force an appliance can deliver. A bending test which allows direct measurement of the maximum bending moment was developed. Data produced from this test are independent of wire length and configuration. The maximum bending moment, percent recovery, and maximum springback were determined for round and rectangular cross sections of stainless steel, nickel-titanium, and beta-titanium wires. The data suggest the need for more specifically defining maximum moment and maximum springback. Three maximum bending moments are described: Me, My, and Mult. My and Mult are clinically the most significant. Appliances that are required to have no permanent deformation must operate below My. Appliances that exhibit marked permanent deformation may be used in some applications and, if so, higher bending moments can be produced. In order of magnitude, the maximum bending moment at yield is largest in stainless steel, beta-titanium, and nickel-titanium for a given cross section. Nickel-titanium and beta-titanium have significantly larger springback than stainless steel determined at the moment at yield. Nickel-titanium did not follow the theoretical ratio between ultimate bending moment and the bending moment at yield, exhibiting a very large ratio. The study supports the hypothesis that most orthodontic appliances are activated in a range where both plastic and elastic behavior occurs; therefore, the use of yield strengths for calculation of force magnitude can lead to a significant error in predicting the forces delivered.

Descriptors: *Dental Alloys; Comparative Study; Elasticity; Nickel; Orthodontic Wires; Research Support, U.S. Gov't, P.H.S.; Stainless Steel; Stress, Mechanical; Titanium

CAS Registry No.: 0 (Dental Alloys); 0 (beta titanium); 12597-68-1 (Stainless Steel); 7440-02-0 (Nickel); 7440-32-6 (Titanium)

Record Date Created: 19830909

Record Date Completed: 19830909

4/5/8 (Item 8 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

06127162 PMID: 6575995
Plastic deformation of orthodontic wires.
Goldberg A J ; Burstone C J ; Koenig H A
Journal of dental research (UNITED STATES) Sep 1983, 62 (9) p1016-20 , ISSN 0022-0345--Print Journal Code: 0354343
Contract/Grant No.: DE-03953; DE; NIDCR; DE-05321; DE; NIDCR
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: DENTAL; INDEX MEDICUS
Theoretical predictions of the bending moments in the region of plastic behavior were accurate for beta titanium and stainless steel, but were consistently low in the far-elastic region for the three alloys studied.
Descriptors: *Dental Alloys; *Orthodontic Appliances; *Orthodontic Wires ; Comparative Study; Elasticity; Nickel; Research Support, U.S. Gov't, P.H.S.; Stainless Steel; Tensile Strength; Titanium
CAS Registry No.: 0 (Dental Alloys); 0 (beta titanium); 12597-68-1 (Stainless Steel); 7440-02-0 (Nickel); 7440-32-6 (Titanium)
Record Date Created: 19830920
Record Date Completed: 19830920

4/5/9 (Item 9 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

06103142 PMID: 6575030
The flexure modulus of elasticity of orthodontic wires.
Goldberg A J ; Morton J; **Burstone C J**
Journal of dental research (UNITED STATES) Jul 1983, 62 (7) p856-8, ISSN 0022-0345--Print Journal Code: 0354343
Contract/Grant No.: DE-03953; DE; NIDCR; DE-05321; DE; NIDCR
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: DENTAL; INDEX MEDICUS
The flexure moduli of elasticity of solid and multi-stranded orthodontic wires were determined. Results for the solid wires approximated their tensile values, but the differences were statistically significant for the stainless steel, chromium-cobalt-nickel, and nickel-titanium alloys. The flexure moduli of the multi-stranded wires ranged from 0.89 to 5.11 X 10(6) psi, and were dependent on the direction of activation.
Descriptors: *Dental Alloys; *Orthodontic Appliances; *Orthodontic Wires ; Chromium Alloys; Comparative Study; Elasticity; Nickel; Research Support, U.S. Gov't, P.H.S.; Stainless Steel; Tensile Strength; Titanium
CAS Registry No.: 0 (Chromium Alloys); 0 (Dental Alloys); 12597-68-1

(Stainless Steel); 7440-02-0 (Nickel); 7440-32-6 (Titanium)
Record Date Created: 19830817
Record Date Completed: 19830817

4/5/10 (Item 10 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

05887967 PMID: 6957477
Status report on beta titanium orthodontic wires. Council on Dental Materials, Instruments, and Equipment.
Goldberg A J ; Burstone C J
Journal of the American Dental Association (1939) (UNITED STATES) Oct 1982, 105 (4) p684-5, ISSN 0002-8177--Print Journal Code: 7503060
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: DENTAL; INDEX MEDICUS
Descriptors: *Dental Alloys; *Orthodontic Appliances; *Orthodontic Wires; *Titanium; Chemistry, Physical; Corrosion; Elasticity
CAS Registry No.: 0 (Dental Alloys); 0 (beta titanium); 7440-32-6 (Titanium)
Record Date Created: 19821218
Record Date Completed: 19821218

4/5/11 (Item 11 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

05449762 PMID: 6936454
Flexure modulus of orthodontic stainless steel wires.
Yoshikawa D K; **Burstone C J ; Goldberg A J** ; Morton J
Journal of dental research (UNITED STATES) Feb 1981, 60 (2) p139-45, ISSN 0022-0345--Print Journal Code: 0354343
Contract/Grant No.: DE 03953-05; DE; NIDCR
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: DENTAL; INDEX MEDICUS
The flexure modulus of elasticity of standard stainless steel orthodontic wires was determined by the use of an iterative finite element technique to be 25.4 x 10(6) psi (175 x 10(3) MN/m2). This technique accounts for the configurational changes in the test specimens due to the relatively large deflection during the cantilever test. Under these conditions, the elementary strength of materials relationships does not accurately describe the flexure characteristics of the wires.
Descriptors: *Orthodontic Appliances; *Stainless Steel; Dental Stress Analysis; Elasticity; Research Support, U.S. Gov't, P.H.S.; Surface Properties
CAS Registry No.: 12597-68-1 (Stainless Steel)
Record Date Created: 19810413

Record Date Completed: 19810413

4/5/12 (Item 12 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

05185177 PMID: 6928342
Beta titanium: a new orthodontic alloy.
Burstone C J ; Goldberg A J
American journal of orthodontics (UNITED STATES) Feb 1980, 77 (2) p121-32, ISSN 0002-9416--Print Journal Code: 0370501
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: DENTAL; INDEX MEDICUS
Historically, few alloys have been used in the fabrication of orthodontic appliances. This article reviews the gold-based, stainless steel, chrome-cobalt-nickel, and nitinol alloys, as well as beta titanium, a new material for orthodontics. Mechanical properties and manipulative characteristics are summarized to develop a basis for the selection of the proper alloy for a given clinical situation. The beta titanium wire has a unique balance of low stiffness, high springback, formability, and weldability which indicates its use in a wide range of clinical applications. A number of such applications are described.
Descriptors: *Dental Alloys; *Orthodontic Appliances; *Titanium; Chemistry, Physical; Chromium Alloys; Comparative Study; Elasticity; Gold Alloys; Nickel; Stainless Steel; Tensile Strength; Tooth Movement --instrumentation--IS
CAS Registry No.: 0 (Chromium Alloys); 0 (Dental Alloys); 0 (Gold Alloys); 12597-68-1 (Stainless Steel); 7440-02-0 (Nickel); 7440-32-6 (Titanium)
Record Date Created: 19800423
Record Date Completed: 19800423

4/5/13 (Item 13 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

04606224 PMID: 272386
Reduction in the modulus of elasticity in orthodontic wires.
Goldberg A J ; Vanderby R; **Burstone C J**
Journal of dental research (UNITED STATES) Oct 1977, 56 (10) p1227-31, ISSN 0022-0345--Print Journal Code: 0354343
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: DENTAL; INDEX MEDICUS
The modulus of elasticity of stainless steel orthodontic wires was found to be 20% below the normally assumed range of 19.3 to 20.0 x 10(4) MPa (28.0 to 29.0 x 10(6) psi). Use of the latter value can result in significant computational errors in orthodontic applicance mechanics. The

lower modulus was attributed to severe cold drawing.
Descriptors: *Orthodontic Appliances; *Stainless Steel; Comparative Study ; Crystallography; Elasticity; Heat; Research Support, U.S. Gov't, P.H.S.; Tensile Strength
CAS Registry No.: 12597-68-1 (Stainless Steel)
Record Date Created: 19780417
Record Date Completed: 19780417

4/5/14 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

01196120 EMBASE No: 1978327534
An evaluation of beta-stabilized titanium alloys for use in orthodontic appliances
Goldberg A.J. ; Burstone C.J.
Univ. Connecticut Hlth Cent., Farmington, Conn. United States
Journal of Dental Research (J. DENT. RES.) (United States) 1978, 57/spec. A (No. 716)
CODEN: JDREA
DOCUMENT TYPE: Journal
LANGUAGE: ENGLISH
DRUG DESCRIPTORS:
*titanium
MEDICAL DESCRIPTORS:
*orthodontics
abstract report; tooth
CAS REGISTRY NO.: 7440-32-6 (titanium)
SECTION HEADINGS:
037 Drug Literature Index

4/5/15 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

10815884 Genuine Article#: 559KE Number of References: 0
Title: Shear contribution to restrained-end flexure of fiber-reinforced composite beams.
Author(s): Eckrote KA; **Burstone CJ** ; Freilich MA; **Goldberg AJ**
Corporate Source: Univ Connecticut,Ctr Hlth,Storrs//CT/06269
Journal: JOURNAL OF DENTAL RESEARCH, 2002, V81, SI (MAR), PA472-A472
ISSN: 0022-0345 Publication date: 20020300
Publisher: INT AMER ASSOC DENTAL RESEARCHI A D R/A A D R, 1619 DUKE ST, ALEXANDRIA, VA 22314-3406 USA
Language: English Document Type: MEETING ABSTRACT
Meeting Abstract Number: 3853
Geographic Location: USA
Journal Subject Category: DENTISTRY, ORAL SURGERY & MEDICINE

4/5/16 (Item 2 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

05494158 Genuine Article#: WB680 Number of References: 0

Title: FLEXURE STRENGTH AND HANDLING CHARACTERISTICS OF FIBER-REINFORCED COMPOSITES USED IN PROSTHODONTICS
Author(s): FREILICH MA; KARKMAKER AC; **BURSTONE CJ ; GOLDBERG AJ**
Corporate Source: UNIV CONNECTICUT,CTR HLTH,SCH DENT MED/FARMINGTON//CT/00000
Journal: JOURNAL OF DENTAL RESEARCH, 1997, V76, NSI, P1361
ISSN: 0022-0345
Language: ENGLISH Document Type: MEETING ABSTRACT
Geographic Location: USA
Subfile: Science Citation Index; SciSearch; CC LIFE--Current Contents, Life Sciences; CC CLIN--Current Contents, Clinical Medicine
Journal Subject Category: DENTISTRY, ORAL SURGERY & MEDICINE

4/5/17 (Item 3 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2006 The Thomson Corp. All rts. reserv.

05493793 Genuine Article#: WB680 Number of References: 0
Title: FLEXURE STRENGTH OF FIBER-REINFORCED COMPOSITES DESIGNED FOR PROSTHODONTIC APPLICATION
Author(s): FREILICH MA; KARMAKER AC; **BURSTONE CJ ; GOLDBERG AJ**
Corporate Source: UNIV CONNECTICUT,CTR HLTH,SCH DENT MED/FARMINGTON//CT/00000
Journal: JOURNAL OF DENTAL RESEARCH, 1997, V76, NSI, P999
ISSN: 0022-0345
Language: ENGLISH Document Type: MEETING ABSTRACT
Geographic Location: USA
Subfile: Science Citation Index; SciSearch; CC LIFE--Current Contents, Life Sciences; CC CLIN--Current Contents, Clinical Medicine
Journal Subject Category: DENTISTRY, ORAL SURGERY & MEDICINE

4/5/18 (Item 4 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2006 The Thomson Corp. All rts. reserv.

01879075 Genuine Article#: JH983 Number of References: 6
Title: THE EFFECT OF THERMOFORMING ON THE PROPERTIES OF FIBER-REINFORCED COMPOSITE WIRES
Author(s): PATEL AP; **GOLDBERG AJ ; BURSTONE CJ**
Corporate Source: UNIV CONNECTICUT,CTR HLTH,SCH DENT MED,DEPT PEDIAT DENT & ORTHODONT,DIV ORTHODONT/FARMINGTON//CT/06030; UNIV CONNECTICUT,CTR HLTH,SCH DENT MED,DEPT PROSTHODONT/FARMINGTON//CT/06030
Journal: JOURNAL OF APPLIED BIOMATERIALS, 1992, V3, N3 (FAL), P177-182
Language: ENGLISH Document Type: ARTICLE
Geographic Location: USA
Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences
Journal Subject Category: ENGINEERING, BIOMEDICAL; MATERIALS SCIENCE
Abstract: The effects of thermoforming on the instantaneous flexural properties and structure of thermoplastic fiber-reinforced composite (FRC) wires were studied to determine the preferred temperature range for clinical forming. Five different formulations of FRC wires were heated to clinically relevant thermoforming temperatures in a special mold that was designed to maintain their shape. In addition, one formulation was also heated without the restraining effect of the mold. Flexural properties were determined. A temperature above the T(g) is

necessary to allow sufficient softening and avoidance of distortion in shape during clinical forming. However, higher temperatures will result in significant structural disintegration of the wires with consequent decrease in flexural modulus. Thus, for every material, there is a heating range or "working range" where the material can be properly formed with minimal changes in the physical properties. This was primarily related to the T(g) of the matrix used.

Cited References:

J AM DENT ASSOC, 1977, V95, P1169
GOLDBERG AJ, 1991, V70, P345, J DENT RES
PATEL AP, 1992, V26, IN PRESS J CLIN ORTH
PATEL AP, 1991, V70, P481, J DENT RES
PATEL AP, 1989, THESIS U CONNECTICUT
YOSHIKAWA DK, 1981, V60, P139, J DENT RES

4/5/19 (Item 1 from file: 434)

DIALOG(R)File 434:SciSearch(R) Cited Ref Sci

05296885 Genuine Article#: RD552 Number of References: 12
Title: MAXIMUM FORCES AND DEFLECTIONS FROM ORTHODONTIC APPLICANCES
Author(s): **BURSTONE CJ ; GOLDBERG AJ**
Corporate Source: UNIV CONNECTICUT,CTR HLTH,SCH DENT MED,DEPT ORTHODONT/FARMINGTON//CT/06032; UNIV CONNECTICUT,CTR HLTH,SCH DENT MED,DEPT RESTORAT DENT/FARMINGTON//CT/06032
Journal: AMERICAN JOURNAL OF ORTHODONTICS AND DENTOFACIAL ORTHOPEDICS, 1983, V84, N2, P95-103
Language: ENGLISH Document Type: ARTICLE
Geographic Location: USA
Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences; CC CLIN--Current Contents, Clinical Medicine
Journal Subject Category: DENTISTRY & ODONTOLOGY
Cited References:

BURSTONE CJ, 1976, V70, P1, AM J ORTHOD
BURSTONE CJ, 1981, V80, P1, AM J ORTHOD
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DEFRANCO JC, 1976, V9, P793, J BIOMECHANICS
GOLDBERG AJ, J DENT RES
KOENIG HA, 1974, V7, P429, J BIOMECHAN
KUSY RP, 1981, V79, P625, AM J ORTHOD
KUSY RP, 1981, V51, P325, ANGLE ORTHOD
LOPEZ I, 1979, V75, P569, AM J ORTHOD
THUROW RC, 1972, EDGEWISE ORTHODONTIC
YOSHIKAWA DK, 1981, V60, P139, J DENT RES

4/5/20 (Item 2 from file: 434)

DIALOG(R)File 434:SciSearch(R) Cited Ref Sci

04724019 Genuine Article#: PJ494 Number of References: 7
Title: STATUS-REPORT ON BETA-TITANIUM ORTHODONTIC WIRES
Author(s): **GOLDBERG AJ ; BURSTONE CJ**
Corporate Source: UNIV CONNECTICUT,SCH DENT MED,DEPT RESTORAT DENT/FARMINGTON//CT/06032; UNIV CONNECTICUT,SCH DENT MED,DEPT

ORTHODONT/FARMINGTON//CT/06032
Journal: JOURNAL OF THE AMERICAN DENTAL ASSOCIATION, 1982, V105, N4, P 684-685
Language: ENGLISH Document Type: ARTICLE
Geographic Location: USA
Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences; CC CLIN--Current Contents, Clinical Medicine
Journal Subject Category: DENTISTRY & ODONTOLOGY
Cited References:
BURSTONE CJ, 1980, V77, P121, AM J ORTHOD
BURSTONE CJ, 1982, V80, P1, AM J ORTHOD
GOLDBERG AJ, 1981, V60, P626, J DENT RES
GOLDBERG J, 1979, V58, P593, J DENT RES
KUSY RP, 1981, V79, P625, AM J ORTHOD
SARKAR NK, UNPUB J ORAL REHABIL
WILLIAMS DF, 1973, P315, IMPLANTS SURGERY

4/5/21 (Item 3 from file: 434)
DIALOG(R)File 434:SciSearch(R) Cited Ref Sci
(c) 2006 The Thomson Corp. All rts. reserv.

03741629 Genuine Article#: LC372 Number of References: 0
Title: TORSIONAL PROPERTIES OF SOLID ORTHODONTIC WIRES
Author(s): **GOLDBERG AJ** ; ELINSON A; MORTON J; **BURSTONE CJ**
Corporate Source: UNIV CONNECTICUT,SCH DENT MED/FARMINGTON//CT/06032
Journal: JOURNAL OF DENTAL RESEARCH, 1981, V60, NSIA, P628
Language: ENGLISH Document Type: MEETING ABSTRACT
Geographic Location: USA
Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences; CC CLIN--Current Contents, Clinical Medicine
Journal Subject Category: DENTISTRY & ODONTOLOGY

4/5/22 (Item 4 from file: 434)
DIALOG(R)File 434:SciSearch(R) Cited Ref Sci
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03741621 Genuine Article#: LC372 Number of References: 0
Title: ELECTRICAL-RESISTANCE WELDING OF BETA-TITANIUM ORTHODONTIC WIRE
Author(s): **GOLDBERG AJ** ; LABENSKI TC; ELINSON A; **BURSTONE CJ**
Corporate Source: UNIV CONNECTICUT,SCH DENT MED/FARMINGTON//CT/06032
Journal: JOURNAL OF DENTAL RESEARCH, 1981, V60, NSIA, P626
Language: ENGLISH Document Type: MEETING ABSTRACT
Geographic Location: USA
Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences; CC CLIN--Current Contents, Clinical Medicine
Journal Subject Category: DENTISTRY & ODONTOLOGY

4/5/23 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)
(c) 2006 American Chemical Society. All rts. reserv.

120280221 CA: 120(22)280221u JOURNAL
Screening of matrixes and fibers for reinforced thermoplastics intended for dental applications

AUTHOR(S): Goldberg, A. Jon; Burstone, Charles J.; Hadjinikolaou, Ioannis ; Jancar, Joseph
LOCATION: Health Cent., Univ. Connecticut, Farmington, CT, 06030, USA
JOURNAL: J. Biomed. Mater. Res. DATE: 1994 VOLUME: 28 NUMBER: 2
PAGES: 167-73 CODEN: JBMRBG ISSN: 0021-9304 LANGUAGE: English
SECTION:
CA263007 Pharmaceuticals
IDENTIFIERS: dental thermoplastic property glass fiber reinforcement
DESCRIPTORS:
Plastics,thermo-... Polycarbonates,properties... Urethane polymers,properties...
properties of dental, glass fiber reinforcement effect on
Glass fibers,properties...
thermoplastic dental materials reinforced with, properties of
Dental materials and appliances...
thermoplastic, properties of, glass fiber reinforcement effect on
CAS REGISTRY NUMBERS:
25640-14-6 79331-75-2 92170-93-9 properties of dental, glass fiber reinforcement effect on
24936-68-3 25038-54-4 properties, properties of dental, glass fiber reinforcement effect on

4/5/24 (Item 2 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

112204788 CA: 112(22)204788d PATENT
Passive dental appliances of fiber-reinforced composites
INVENTOR(AUTHOR): Goldberg, A. Jon; Burstone, Charles J.
LOCATION: USA
ASSIGNEE: University of Connecticut
PATENT: South Africa ; ZA 8808310 A DATE: 890726
APPLICATION: ZA 888310 (881107) *US 121178 (871116)
PAGES: 30 pp. CODEN: SFXXAB LANGUAGE: English
PATENT CLASSIFICATIONS:
CLASS: A61C-000/A; A61K-000/B
SECTION:
CA263007 Pharmaceuticals
IDENTIFIERS: dental composite polymer fiber
DESCRIPTORS:
Alkenes,polymers,polymers... Glycols,esters,esters... Polyamides,biological studies... Polycarbonates,biological studies... Polyesters,biological studies... Polyesters,arom.,biological studies... Polyimides,biological studies... Polyoxymethylenes,biological studies... Polysulfides,aryl... Polysulfones,biological studies... Urethane polymers,biological studies...
orthodontic composites contg.
Carbon fibers,biological studies... Carbon fibers,graphite,biological studies... Glass fibers,biological studies... Polyamide fibers,biological studies... Polyamide fibers,aramid,biological studies... Polyester fibers,biological studies...
orthodontic materials contg.
Dental materials and appliances,orthodontic...
polymeric matrix and fibers for
CAS REGISTRY NUMBERS:
9003-54-7 9003-56-9 orthodontic materials contg. fibers and

4/5/25 (Item 3 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

93080110 CA: 93(8)80110u PATENT
Orthodontic appliance of titanium alloy
INVENTOR(AUTHOR): Burstone, Charles J.; Goldberg, A. Jon
LOCATION: USA
ASSIGNEE: University of Connecticut
PATENT: United States US 4197643 DATE: 800415
APPLICATION: United States US 886430 DATE: 780314
PAGES: 7 pp. CODEN: USXXAM LANGUAGE: English
PATENT CLASSIFICATIONS:
CLASS: 433020000; H01L-007/58; A61C-007/00; C22C-014/00;
SECTION:
CA063007 Pharmaceuticals
IDENTIFIERS: titanium alloy orthodontic wire, surgical wire titanium alloy
DESCRIPTORS:
Surgical dressings and goods,wires...
titanium alloys for
Dental materials and fillings,alloys...
titanium, for orthodonic appliance wire
CAS REGISTRY NUMBERS:
11147-59-4 74419-44-6 orthodonic appliance wire
?

Foreign & International Patent Search

Search Strategy

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Set     Items   Description
S1      49927   DENTAL? OR DENTIST? OR ORTHODONT? OR PROSTHODONT? OR (ORTHO
             OR PROSTHO)()DONTIC? OR ODONTOLOG?
S2     270228   MOUTH? ? OR TEETH? ? OR TOOTH? ?
S3     100035   ARYLEN? OR POLYARYLEN? OR HETEROARYLEN? OR POLYHETEROARYLE-
             N? OR PARMAX OR POLY()X OR PHENYLEN? OR PARAPHENYLEN? OR POLY-
             PHENYLEN? OR RIGID(3W)(POLYMER? OR COPOLYMER? OR HOMOPOLYMER?)
S4     459377   (THERMOPLASTIC? OR THERMO()PLASTIC?)(3N)(POLYMER? OR COPOL-
             YMER? OR HOMOPOLYMER? OR MATERIAL? ?) OR POLYVINYL()(CHLORIDE?
              OR ALCOHOL) OR POLYAMIDE? OR POLYFLUOROCARBON? OR POLYOLEFIN?
              OR POLYSTYRENE?
S5       7346   UNREINFORC? OR UNREENFORC? OR ("NOT" OR NONE OR NO OR UN OR
              WITHOUT OR "WITH"()OUT OR NON)(2W)(REINFORC? OR REENFORC? OR
             STRENGTHEN?)
S6      94885   TENSILE(2N)(STRENGTH OR STRESS) OR (YIELD OR ULTIMATE OR B-
             REAKING)()STRENGTH
S7      45253   (TENSILE OR ELASTIC? OR YOUNG? ? OR SHEAR OR BULK)(2N)(MOD-
             ULUS OR MODULI)
S8     136698   PASCAL? ? OR MEGAPASCAL? ? OR GIGAPASCAL? ? OR PA OR MPA OR
              GPA OR PSI
S9      36967   N()(MM OR MM2 OR M OR M2) OR MN()(M OR M2) OR (LB OR LBS)(-
             2W)(IN OR IN2)
S10      2381   NEWTON? ?(2W)(MILLIMET? OR METRE? ? OR METER? ?) OR MEGANE-
             WTON? ?(2W)(METER? ? OR METRE? ?) OR POUND? ?(2W)(INCH OR INC-
             HES)
S11     42436   IC=A61C?
S12      8790   S1(5N)(APPLIANCE? OR DEVICE? OR COMPONENT? OR WIRE OR WIRES
              OR ARCHWIRE? OR BRACKET? ? OR RING OR RINGS OR AUXILIARY OR -
             AUXILIARIES)
S13        62   S3 AND S12
S14        19   S13 AND S11
S15         0   (S13 NOT S14) AND IC=(A61B? OR A61D?)
S16        43   S13 NOT S14
S17     13527   S6(5N)S8:S10
S18      8671   S7(5N)S8:S10
S19         2   S12 AND S3:S4 AND S5 AND S17:S18
S20         2   S1:S2 AND S3:S4 AND S5 AND S17:S18
S21         0   S20 NOT (S13 OR S19)
S22        14   S12 AND S3:S4 AND S17:S18
S23        12   S22 NOT (S13 OR S19)
S24        61   S1:S2 AND S3:S4 AND S17:S18
S25        14   (S24 NOT (S13 OR S19 OR S23)) AND S11
S26        33   S24 NOT (S13 OR S19 OR S23 OR S25)

File 347:JAPIO Dec 1976-2005/Dec(Updated 060404)
         (c) 2006 JPO & JAPIO
File 350:Derwent WPIX 1963-2006/UD=200657
         (c) 2006 The Thomson Corporation
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Search Results

14/5/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0015462369 - Drawing available
WPI ACC NO: 2005-800063/200582
XRAM Acc No: C2005-246591
XRPX Acc No: N2005-662583
Dental device **e.g. one piece** dental **implant comprises core which is perfectly fitting into cavity of outer section made of metal**
Patent Assignee: STRAUMANN HOLDING AG (STRA-N)
Inventor: MUNDWILER U; SOLER C; WIELAND M
Patent Family (4 patents, 36 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 1598028	A1	20051123	EP 200411868	A	20040519	200582	B
JP 2005329244	A	20051202	JP 2005147121	A	20050519	200582	E
US 20050266382	A1	20051201	US 2005132990	A	20050519	200582	E
CA 2507324	A1	20051119	CA 2507324	A	20050513	200624	E

Priority Applications (no., kind, date): EP 200411868 A 20040519

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
EP 1598028	A1	EN	11	4	
Regional Designated States,Original: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IT LI LT LU LV MC MK NL PL PT RO SE SI SK TR					
JP 2005329244	A	JA	10		
CA 2507324	A1	EN			

Alerting Abstract EP A1
NOVELTY - The device comprises an outer section (1) made of metal. A core (3) of an inner section (2) perfectly fits into the cavity of outer section. A metal or ceramic inner sleeve is fixed to the hollow section of inner section for fixing to cap, crown.
DESCRIPTION - An INDEPENDENT CLAIM is also included for **dental device** manufacturing method.
USE - E.g. one piece dental implant, dental prosthesis.
ADVANTAGE - Enables to manufacture the device with good bio-compatibility, higher strength and good aesthetic impact easily.
DESCRIPTION OF DRAWINGS - The figure shows a perspective view of the one piece **dental device** .
1 outer section
2 inner section
3 core
4 collar
11 abutment

14/5/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0014814643 - Drawing available

WPI ACC NO: 2005-162332/
XRAM Acc No: C2005-052394
XRPX Acc No: N2005-136237
Orthodontic device **for use as e.g.** orthodontic brackets , orthodontic **arch** wire , orthodontic **face bow**, dental **post, or tooth replacement, comprises fiber-reinforced composition comprising fiber material within matrix phase material**
Patent Assignee: CHEW C L (CHEW-I); FOONG W C K (FOON-I); FUJIHARA K (FUJI-I); GANESH V K (GANE-I); LOH P L (LOHP-I); RAMAKRISHNA S (RAMA-I); TEO C Y K (TEOC-I); UNIV SINGAPORE NAT (UYSI-N)
Inventor: CHEW C L; FOONG W C K; FUJIHARA K; GANESH V K; KAZUTOSHI F; LOH P L; RAMAKRISHNA S; TEO C Y K
Patent Family (2 patents, 106 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
WO 2004111112	A1	20041223	WO 2004SG185	A	20040618	200517 B
US 20050008984	A1	20050113	US 2003479394	P	20030618	200517 E
			US 2004871462	A	20040618	

Priority Applications (no., kind, date): US 2004871462 A 20040618; US 2003479394 P 20030618

Alerting Abstract WO A1

NOVELTY - An **orthodontic device** comprises a fiber- reinforced composition comprising fiber material within a matrix phase material. The fiber material comprises a braided fiber material having a braid angle of 3-87(deg).

DESCRIPTION - An INDEPENDENT CLAIM is also included for a method of forming a fiber reinforced composite for use in **orthodontic devices** comprising impregnating a fiber material with a monomer resin to form an impregnated fiber, shaping the impregnated fiber into a defined cross sectional shape for use in the **orthodontic device** , and polymerizing the monomer resin to form the fiber-reinforced composite.

USE - For use as **orthodontic brackets** , **orthodontic** arch **wire** , **orthodontic** face bow, **dental** post, tooth replacement, periodontal splints, orthodontic retainer and pace maintainers, dental bridges, or dental implant prosthesis (claimed).

ADVANTAGE - The inventive **orthodontic device** includes a braided fiber that is conformed into the selected profile, thus increasing the distribution in selected areas of the composite, where higher structural strength is required. The fiber-reinforced composite is translucent, thus is aesthetic in appearance. The **orthodontic device** is not susceptible to deformation and fracture.

DESCRIPTION OF DRAWINGS - The drawing shows a braided fiber material having a braid angle.

10 Braided fiber material
12 Vertical axis
14 Fiber strands

14/5/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0014730450 - Drawing available
WPI ACC NO: 2005-078071/
Related WPI Acc No: 2001-182085; 2002-074620; 2002-655589

XRAM Acc No: C2005-027441
XRPX Acc No: N2005-068470
Prefabricated block for use in computer aided design system for manufacture of dental appliance **, comprises fiber-reinforced composite material comprising fibers dispersed in thermoplastic matrix material, where fibers have specific length**
Patent Assignee: GOLDBERG A J (GOLD-I); KARMAKER A (KARM-I); MATHER P T (MATH-I); PRASAD A (PRAS-I); ROJANAPITAYAKORN P (ROJA-I); WEISS R A (WEIS-I)
Inventor: GOLDBERG A J; KARMAKER A; MATHER P T; PRASAD A; ROJANAPITAYAKORN P; WEISS R A
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 20040241614	A1	20041202	US 199859492	A	19980413	200509 B
			US 1998190806	A	19981112	
			US 1999344089	A	19990625	
			US 200129782	A	20011026	
			US 2003744282	A	20031222	

Priority Applications (no., kind, date): US 200129782 A 20011026; US 1999344089 A 19990625; US 1998190806 A 19981112; US 199859492 A 19980413; US 2003744282 A 20031222

Alerting Abstract US A1

NOVELTY - A prefabricated block for use in computer aided design (CAD)/CAM (sic) system for the manufacture of a **dental appliance** , comprises a fiber-reinforced composite material comprising fibers dispersed in a thermoplastic matrix material, where the fibers are less than 15 mm in length, the fibers are not fully aligned in one direction, and the fibers are randomly dispersed in a section of the block.

DESCRIPTION - AN INDEPENDENT CLAIM is also included for a method of making a **dental appliance** , comprising providing a prefabricated block of material; and machining the block into the **dental appliance** .

USE - The invention is for use in computer aided design (CAD)/CAM (sic) system for the manufacture of a **dental appliance** , e.g. **orthodontic** retainers, bridges, space maintainers, tooth replacement appliances, splints, crowns, partial crowns, dentures, posts, teeth, jackets, inlays, onlays, facings, veneers, facets, implants, abutments, retainers, cylinders, or connectors. It is provided in the shape of a pontic or bar. (all claimed)

ADVANTAGE - The process of fabricating **dental appliance** is simplified, reducing time and labor involved in the preparation process, and providing appliances having optimum properties. The risk of contamination during the fabrication of **dental appliances** is reduced. Strength of **dental appliances** is maintained, without sacrificing aesthetic and light transmission properties.

DESCRIPTION OF DRAWINGS - The figure is a perspective view of a bar.
14 Rectangular cross-section

14/5/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0014214144
WPI ACC NO: 2004-399889/200437

Related WPI Acc No: 2003-810885; 2004-020310; 2005-271852
XRAM Acc No: C2004-149633
XRPX Acc No: N2004-318784

Material for filling cavities and root canals comprises a thermoplastic polymer

Patent Assignee: ALPERT B (ALPE-I); JIA W (JIAW-I); PENTRON CLINICAL TECHNOLOGIES LLC (PENT-N); TROPE M (TROP-I)
Inventor: ALPERT B; JIA W; TROPE M

Patent Family (5 patents, 31 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2004037214	A1	20040506	WO 2003US19277	A	20030619	200437	B
US 20050069836	A1	20050331	US 2001336500	P	20011024	200523	E
			US 2002279609	A	20021024		
			US 2002304371	A	20021126		
			US 2003465416	A	20030618		
EP 1560555	A1	20050810	EP 2003739200	A	20030619	200552	E
			WO 2003US19277	A	20030619		
CN 1691929	A	20051102	CN 2003824381	A	20030619	200617	E
JP 2006507361	W	20060302	WO 2003US19277	A	20030619	200621	E
			JP 2005501595	A	20030619		

Priority Applications (no., kind, date): US 2001336500 P 20011024; US 2002304371 A 20021126; US 2002279609 A 20021024; US 2003465416 A 20030618

Alerting Abstract WO A1

NOVELTY - A material comprises a thermoplastic polymer having a bond strength when bonded to a root canal sealant of (similar)3 MPa, and optionally a bioactive filler.

DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

1.an appliance for applying the filling material to a root canal or a tooth comprising: a handle, a shaft, and the filing material disposed on the shaft;

2.an endodontic post comprising: a post section and a tip section comprising the filling material; and

3.restoring root canal of a tooth involving:

1.preparing the root canal;

2.applying a sealant into the root canal;

3.inserting the filling material into the canal.

ACTIVITY - Antimicrobial; Antibacterial; Antiinflammatory.

The composition was then tested by leakage test over a 30 day period on samples of teeth using various forms of filling materials. A test filling material (resin percha) comprised (wt.%): **TONE POLYMER ** (RTM; P767, polycaprolactone resin) (21), **TONE POLYMER ** (RTM; P787, polycaprolactone resin) (9), polyethylene glycol dimethacrylate (molecular weight = 400) (5), bioactive glass (21.5), ZnO (21.5) and BaSO4 (22), in the form of a homogeneous dough ready for application. A test sample contained 15 teeth subjected to root canal treatment, etched with a self etching primer, applied with a root sealant and followed by a vertical

insertion of resin percha. A comparative sample contained 15 teeth having AH26 sealant applied and then filled with obtura soft gutta-percha. The test was performed using a split chamber microbial leakage model using ~S. mutans ~ for test and ~S. fecalis ~ for control samples respectively. The microorganisms were placed in an upper chamber, which could be passed to the lower chamber only through the obturated canal; containing basal broth with phenol red indicator and 1% sucrose (15 ml). The specimens were checked every 24 hours over 30 days for a color change in the broth from red to yellow (microbial metabolism causing acid production) indicating bacterial leakage. The microbial leakage of the teeth filled with test/comparative compositions after 30 days was found to be 1/13.

MECHANISM OF ACTION - Cell, tissue and bone growth and survival promoter.

USE - For filling cavities and root canals (claimed).

ADVANTAGE - The material bonds easily to sealants, such that the bond strength of the material when bonded to a root canal sealant of (similar)3 MPa, and also has a desired flexibility, and imparts strengthening effect to the root. The presence of a bioactive filler in the material further reduces or eliminates bacterial into or from the material, and also reacts with the tissue in the mouth and mending and/or growing tissue to fill in any gaps or openings. The filling material is biodegradable and biocompatible and is also removable or dissolvable in a dental solvent; hence if by chance the material is pushed slightly past the apex, seeps through the apex, or comes in contact with fluids in mouth; the biodegradable material disintegrates or breaks down and is at least partially absorbed by the surrounding leaving tissue.

14/5/6 (Item 6 from file: 350) ***** CURRENT APPLICATION *****

DIALOG(R)File 350:Derwent WPIX

0013942112 - Drawing available

WPI ACC NO: 2004-122471/200412

XRAM Acc No: C2004-049186

XRPX Acc No: N2004-098041

Orthodontic component useful in orthodontic appliances for moving or manipulating certain teeth to correct irregularities and/or abnormalities, has rigid backbone polymer having compatibilizing and/or solubilizing side group

Patent Assignee: UNIV CONNECTICUT (UYCO-N)

Inventor: BURSTONE C J; GOLDBERG A J

Patent Family (4 patents, 101 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2004004592	A1	20040115	WO 2003US20198	A	20030626	200412	B
US 20040013994	A1	20040122	US 2002393791	P	20020703	200416	E
			US 2003612511	A	20030702		
AU 2003247718	A1	20040123	AU 2003247718	A	20030626	200459	E
EP 1539020	A1	20050615	EP 2003763026	A	20030626	200539	E
			WO 2003US20198	A	20030626		

Priority Applications (no., kind, date): US 2003612511 A 20030702; US 2002393791 P 20020703

Alerting Abstract WO A1

NOVELTY - The **orthodontic component** (12) has a **rigid** backbone

polymer having compatibilizing side group and/or solubilizing side group.
DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1.formation of orthodontic component or its precursor; and

2.formation of orthodontic force system.

USE - Useful in **orthodontic appliances** for moving or manipulating certain teeth to correct irregularities and/or abnormalities.
ADVANTAGE - The novel **orthodontic component** has excellent tensile strength, tensile modulus, pencil hardness, mechanical properties, flexural strength and aesthetic appearance. The component is resistance to creep minimal stress relaxation and has highly scratch and abrasion resistant and good wear characteristics. The **component** provides greater control of **orthodontic** force system, has excellent bondability, flexibility in designing orthodontic force system and flexure properties.
DESCRIPTION OF DRAWINGS - The figure shows perspective view of inventive force delivery **component** engaged with slots of **orthodontic component** .
12 **Orthodontic component**
14 Attachment

14/5/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0013909265 - Drawing available
WPI ACC NO: 2004-088805/
XRAM Acc No: C2004-036133
XRPX Acc No: N2004-071091
Orthodontic bracket **includes pair of inwardly facing upstanding angular legs integrally formed in base plate projecting full width from the base plate and flush with the base plate right and left sides**
Patent Assignee: TEPPER H W (TEPP-I)
Inventor: TEPPER H W
Patent Family (2 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20030118967	A1	20030626	US 200123299	A	20011220	200409	B
US 6663385	B2	20031216	US 200123299	A	20011220	200409	E

Priority Applications (no., kind, date): US 200123299 A 20011220

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20030118967	A1	EN	11	34	

Alerting Abstract US A1
NOVELTY - An **orthodontic bracket** comprises a pair of inwardly facing upstanding angular legs integrally formed in a base plate projecting a full width from the base plate, flush with the base plate right and left sides, and also spaced apart at least an archwire narrowest width. The angular legs have a gap in between them with the legs and base plate forming a cavity to receive and retain an archwire.
DESCRIPTION - An **orthodontic bracket** comprises a base plate (22) having a labial-buccal surface (24), a tooth abutment surface, right and left sides (30), and upper and lower sides (32, 34); and a pair of inwardly facing upstanding angular legs integrally formed within the base plate

transverse to the base plates mesial-distal axis, projecting a full width from the base plate flush with the base plate right and left sides, and also spaced apart at least an archwire narrowest width. The angular legs have a gap in between them with the legs and base plate forming a cavity (52) to receive and retain an archwire. The cavity has an inside surface with the cavity bottom parallel with the labial-buccal surface of the base plate. The base and legs are formed of a material and have sufficient resiliency to arcuately spread apart allowing an archwire to be urged in between and snap shut into their primary position after passing an archwire thus captivating an archwire.

USE - For orthodontics.

ADVANTAGE - The invention is flatter, has smoother profile, and eliminates any irregular surface having the propensity to trap food particles and the raised portion that spaces the archwire away from the tooth common to most brackets. There is less friction between the wire and bracket allowing the archwire to glide laterally within the cavity providing the proper stress to be applied to the tooth by the bracket without any indirect interference. The archwire is much easier to install and saves time since the wire is simply placed on top of the legs and manually snapped into the cavity and is held restrained along the entire width of the bracket. The invention saves time and expense for the orthodontic practitioner, allows rotating movements of the patients teeth to be accomplished readily as angulated brackets producing no friction, and reduces overall combined expense.

DESCRIPTION OF DRAWINGS - The figure shows a partial isometric view of the rectangular shape base plate.

22 Base plate
24 Labial-buccal surface
30 Left side
32, 34 Upper and lower sides
42 Tooth occlusal plane
52 Cavity
64 Indentation

14/5/8 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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0013658447 - Drawing available
WPI ACC NO: 2003-754628/200371
XRAM Acc No: C2003-207007
XRPX Acc No: N2003-604599
Ready-to-use component, e.g. unit pontic, used in fabrication of dental appliance **system, e.g. retainers, includes hybrid component having fiber-reinforced composite material comprising polymeric matrix, and reinforcing fiber component**
Patent Assignee: UNIV CONNECTICUT (UYCO-N)
Inventor: FREILICH M A; GOLDBERG A J; MEIERS J C
Patent Family (1 patents, 1 countries)

Patent			Application			
Number	Kind	Date	Number	Kind	Date	Update
US 6599125	B1	20030729	US 1999151003	P	19990827	200371 B
			US 2000645951	A	20000825	

Priority Applications (no., kind, date): US 1999151003 P 19990827; US 2000645951 A 20000825

Alerting Abstract US B1

NOVELTY - A ready-to-use component (I) comprises a one-piece hybrid component having >=2 sections of prefabricated preshaped fiber-reinforced composite material comprising a polymeric matrix and a reinforcing fiber component, where at least one of the sections is cured or uncured.

DESCRIPTION - INDEPENDENT CLAIMS are also included for:

1.An implant system comprising (I);

2.A kit for the fabrication of a dental appliance comprising (I); and

3.A method for making a dental restoration for direct or indirect application to a patient's mouth, comprising providing (I), applying a bonding agent to patient's teeth proximate an area for insertion of the component, removing a protective cover from an uncured section, inserting the ready-to-use component in the patient's mouth, and bonding the uncured sections to the patient's teeth.

USE - The **component** is used in a **dental** restoration and in the fabrication of a **dental appliance** system, e.g. **orthodontic** retainers, bridges, space maintainers, tooth replacement appliances, splints, crowns, partial crowns, dentures, posts, teeth, jackets, inlays, onlays, facings, veneers, facets, implants, cylinders, abutments, pins, and connectors (claimed).

ADVANTAGE - The component reduces time and labor involved in the preparation process, and reduces the risk of contamination during the fabrication. It maintains strength of **dental appliances** without sacrificing aesthetic and light transmitting properties.

DESCRIPTION OF DRAWINGS - The figures show a front elevational view and a top plan view of the multi-unit pontic.

14/5/9 (Item 9 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0013146804

WPI ACC NO: 2003-229300/200322

XRAM Acc No: C2003-058859

XRPX Acc No: N2003-182481

Prepreg useful for e.g. endosseous prostheses, maxillofacial prostheses, dental implants, dental bridges, resin-bonded bridges, dentures, periodontal splints, root canal posts comprises fibers and curable matrix

Patent Assignee: LASSILA L (LASS-I); STICK TECH OY (STIC-N); VALLITTU P (VALL-I); YLI-URPO A (YLIU-I)

Inventor: LASSILA L; VALLITTU P; YLI-URPO A

Patent Family (5 patents, 99 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2002100355	A1	20021219	WO 2002FI508	A	20020612	200322	B
EP 1401378	A1	20040331	EP 2002743279	A	20020612	200424	E
			WO 2002FI508	A	20020612		
AU 2002345101	A1	20021223	AU 2002345101	A	20020612	200452	E
US 20040166304	A1	20040826	WO 2002FI508	A	20020612	200457	E

			US 2003479809	A	20031205		
JP 2005502492	W	20050127	WO 2002FI508	A	20020612	200510	E
			JP 2003503181	A	20020612		

Priority Applications (no., kind, date): FI 20011233 A 20010612; US 2001297268 P 20010612

Alerting Abstract WO A1

NOVELTY - A prepreg (P1) comprises fibers and a curable matrix. (P1) has a core and a surface part encasing the core in which the matrix of the core and the surface part are made of a same material and the proportion of the matrix to the fibers is higher in the core than in the surface part.

DESCRIPTION - An INDEPENDENT CLAIM is also included for a composite obtainable by curing the matrix of (P1).

USE - For medical and/or dental constructions; in endosseous prostheses, maxillofacial prostheses, dental implants, dental bridges, resin-bonded bridges, dentures, periodontal splints, root canal posts, **orthodontic appliances** , crowns, fillings, mouth guards, matrices, and inserts for dental filling material, reinforcements for removable dentures, repair materials for gold alloy bridges, materials for bite registration index, bone support plaster replacements, external orthopedic supporting devices and sport devices; in tools, devices and parts of instruments (all claimed).

Also in bandages replacing traditional gypsum plasters, in endosseus implants as a framework material for prostheses, bone support plaster replacement and a surface material for improved bone retention.

ADVANTAGE - The prepreg and the composite is durably and firmly bonded to synthetic or living materials based on mechanical interlocking and adhesion. There are no limitations as to the size and shape of the prepreg and it may be used in any desired applications.

14/5/10 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0012798993

WPI ACC NO: 2002-655589/200270

Related WPI Acc No: 2001-182085; 2002-074620; 2005-078071

XRAM Acc No: C2002-184092

XRPX Acc No: N2002-518069

Blank for CAD/CAM system for manufacturing dental restorations, comprises prefabricated preshaped block comprising particulate-filled composite material and fibrous material and is cured to preset hardness

Patent Assignee: KARMAKER A (KARM-I); PENTRON CORP (PENR); PRASAD A (PRAS-I); SCHULMAN M L (SCHU-I)

Inventor: KARMAKER A; PRASAD A; SCHULMAN M L

Patent Family (2 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20020086266	A1	20020704	US 199859492	A	19980413	200270	B
			US 1998190806	A	19981112		
			US 1999344089	A	19990625		
			US 200129782	A	20011026		
US 6846181	B2	20050125	US 1997998849	A	19971229	200508	E
			US 199859492	A	19980413		
			US 1998190806	A	19981112		

US 1999344089 A 19990625
US 200129782 A 20011026

Priority Applications (no., kind, date): US 1997998849 A 19971229; US 1999344089 A 19990625; US 1998190806 A 19981112; US 199859492 A 19980413; US 200129782 A 20011026

Alerting Abstract US A1

NOVELTY - A blank comprises a prefabricated preshaped block which is cured to preset hardness, for use in dental restorations. The block comprises a particulate filler material, 20-30% of a fibrous material and a polymeric matrix material. The particulate-filled composite material comprises 30% or less of the total.

DESCRIPTION - An INDEPENDENT CLAIM is included for a dental restoration manufactured using the blank.

USE - For CAD/CAM system for manufacture of dental restorations (claimed) used for dental applications such as orthodontic retainers, bridges, space maintainers, tooth replacement appliances, dentures, crowns, posts, jackets, inlays, onlays, facings, veneers, facets, implants, abutments and splints.

ADVANTAGE - The preshaped prefabricated cured components are prepared in variety of shapes and sizes, is ready-to-use and is effective to provide strength and stiffness to the finished **dental appliances** . The fabricated **component** eliminates operator-induced errors, reduces time required for manufacture, and enhances overall properties and longevity of final restorations.

14/5/11 (Item 11 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0011215189 - Drawing available
WPI ACC NO: 2002-154224/
XRPX Acc No: N2002-117308

Apparatus, for simulating oral environment of person's mouth, includes dental arch with putty material, shade guide components, and background material

Patent Assignee: JENERIC/PENTRON INC (PENR); PRUDEN J N (PRUD-I)
Inventor: PRUDEN J N

Patent Family (2 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20020006598	A1	20020117	US 2000205663	P	20000519	200220	B
			US 2001861152	A	20010518		
US 6623271	B2	20030923	US 2001861152	A	20010518	200364	E

Priority Applications (no., kind, date): US 2000205663 P 20000519; US 2001861152 A 20010518

Alerting Abstract US A1

NOVELTY - Apparatus (30) includes dental arch (32) with putty material (34) adhered thereto and contoured to form papillae. Newly fabricated crown (36) is inserted onto putty material in order to determine if shade thereof is accurate. Shade guide components (38) are inserted on each side of crown to compare shade of crown to components. Apparatus also includes background material (40) to simulate oral environment.

DESCRIPTION - INDEPENDENT CLAIMS are also included for (a) a kit for analyzing the shade of a dental restoration, and for (b) the method for analyzing the shade of a dental restoration.

USE - For simulating the oral environment of a person's mouth when performing **dental** restorative treatment for **orthodontic appliances** , bridges, spaces maintainers, tooth replacement appliances, splints, crowns, partial crowns, dentures, posts, teeth, jackets, inlays, onlays, facings, veneers, facets, implants, abutments, cylinders, and connectors.

ADVANTAGE - Reduces the subjectivity involves in determining the hue, chroma, value and translucency data. Reduces the subjectivity involved in viewing finished restorations. Provides and effective environment to compare spectrophotometric readings of ceramic and composite crowns and shade guides with spectral data of intraoral spectrophotometric recordings of natural teeth. Apparatus may be positioned in an enclosure such as in a 3 sided box with dark or black interior. This reduces or blocks any light radiating from behind the apparatus, to further simulate the oral cavity since the back of one's mouth is dark.

DESCRIPTION OF DRAWINGS - The drawing shows an elevational view of the mouth simulator apparatus.

30 Apparatus
32 Dental arch
34 Putty material
36 New crown
38 Shade guide components
40 Background material

14/5/12 (Item 12 from file: 350)

0010433065 - Drawing available
WPI ACC NO: 2001-031878/
XRAM Acc No: C2001-009756
XRPX Acc No: N2001-024918

Cylinder for dental implant system, has shelf or shelves disposed on cylindrical body surface

Patent Assignee: BURSTONE C J (BURS-I); DUNCAN J P (DUNC-I); FREILICH M A (FREI-I); GOLDBERG A J (GOLD-I)
Inventor: BURSTONE C J; DUNCAN J P; FREILICH M A; GOLDBERG A J

Patent Family (3 patents, 90 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2000069361	A1	20001123	WO 2000US12897	A	20000511	200104	B
AU 200050038	A	20001205	AU 200050038	A	20000511	200113	E
EP 1182987	A1	20020306	EP 2000932299	A	20000511	200224	E
			WO 2000US12897	A	20000511		

Priority Applications (no., kind, date): US 1999311464 A 19990513

Alerting Abstract WO A1

NOVELTY - A cylinder (10) for an implant system comprises a shelf or shelves (14, 16) disposed on a surface of the cylindrical body to retain a structural framework having a fiber-reinforced composite material.

DESCRIPTION - INDEPENDENT CLAIMS are also included for:

1.a framework for an implant system comprising the cylinders and

fiber-reinforced composite material retained on the cylinders;

2.an implant system comprising abutment(s) for connection to implants, cylinder(s), and fibers reinforced composite material on the cylinders; and

3.a prosthesis comprising the implant system.

USE - The invention is useful as a **component** of a **dental** implant system which can be a single implant crown, a small prosthesis used for replacing a tooth or a few teeth, or a large prosthesis used for replacing all or a large number of teeth.

ADVANTAGE - The inventive cylinder provides an implant system having good aesthetics and adaptability, adequate retention of fiber reinforced composite, and good fracture toughness.

DESCRIPTION OF DRAWINGS - The figure shows a perspective view of the cylinder.

10 Cylinder

14, 16 Shelves

14/5/14 (Item 14 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0009314904 - Drawing available

WPI ACC NO: 1999-246044/199921

XRAM Acc No: C1999-071978

Stable material for adhesives, composites, cement, molding and especially dental use from alpha-halomethacrylic ester with phosphonic ester

Patent Assignee: IVOCLAR AG (IVOC-N); IVOCLAR VIVADENT AG (IVOC-N)

Inventor: MOSZNER N; RHEINBERGER V; ZEUNER F

Patent Family (9 patents, 27 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 909761	A1	19990421	EP 1998250336	A	19980922	199921	B
DE 19746708	A1	19990422	DE 19746708	A	19971016	199922	E
CA 2250333	A1	19990416	CA 2250333	A	19981014	199939	E
JP 11246572	A	19990914	JP 1998295854	A	19981016	199948	E
DE 19746708	C2	20000217	DE 19746708	A	19971016	200013	E
US 6172131	B1	20010109	US 199871496	P	19980114	200104	E
			US 1998169066	A	19981009		
JP 3154978	B2	20010409	JP 1998295854	A	19981016	200122	E
EP 909761	B1	20030402	EP 1998250336	A	19980922	200325	E
DE 59807711	G	20030508	DE 59807711	A	19980922	200332	E
			EP 1998250336	A	19980922		

Priority Applications (no., kind, date): EP 1998250336 A 19980922; DE 19746708 A 19971016

Alerting Abstract EP A1

NOVELTY - Hydrolysis-stable and polymerizable acrylated mono- and diphosphonic acids, which are 2-(dihydroxyphosphoryl-oxa-alkyl)-acrylic acids or esters or corresponding bis compounds, and their stereoisomers and mixtures are new.

DESCRIPTION - Hydrolysis-stable and polymerizable acrylated mono- and diphosphonic acids, which are 2-(dihydroxyphosphoryl-oxa-alkyl)-acrylic

acids or esters or corresponding bis compounds of formula (I), and their stereoisomers and mixtures are new;

http://imagesrv.dialog.com/imanager/getimage?ref=I4490b4b056e311dabe8e0000836 1346f&f=351&type=PNG

R1= H, 1-10 carbon (C) alkyl or 6-10C aryl;

R2= H, F, 1-5C alkyl or phenyl;

R3= 1-8C alkylene or phenylene or is absent;

Y= oxygen (-O-), sulfur (-S-), 1-8 C alkylene or is absent;

n= 1 or 2;

X= H, F, 1-5C alkyl or 6-12C aryl if n = 1;

X= 1-10C alkylene, 6-10C arylene , 7-20C arylenealkylene or is absent if n = 2;

The individual alkyl, aryl, alkylene, **arylene** , phenyl, **phenylene** and **arylenealkylene** groups may have substituent(s).

INDEPENDENT CLAIMS are also included for (a) (co)polymers obtained by (co)polymerization of (I); and (b) the preparation of (I).

USE - (I) are used as constituents of an adhesive, polymer, composite, cement, molding and especially dental material, more especially a dental adhesive, fixing cement or filling composite, in which (I) particularly is in (partly) polymerized form; and in dental material, preferably in (partly) polymerized form (all claimed).

ADVANTAGE - Polymerizable phosphonic acids are useful for increasing the thermal stability, adhesion, flame retardence and solubility of organic polymers in organic solvents, but previous (meth)acrylated derivatives are unstable in aqueous solution. (I) are stable towards hydrolysis, have good adhesive properties and can be polymerized by free radical initiators.

14/5/15 (Item 15 from file: 350)

0007216501
WPI ACC NO: 1995-264462/199535
XRAM Acc No: C1995-120478
XRPX Acc No: N1995-203475

Thermally-curable compsn. for use in dental materials - contain beta-dicarbonyl cpds. and unsatd. ester(s), e.g. tri-acetoacetate(s) and triacrylate(s), as Michael donor and acceptor, and base catalyst

Patent Assignee: IVOCLAR AG (IVOC-N)
Inventor: MOSZNER N; RHEINBERGER V

Patent Family (11 patents, 11 countries)

Patent	Application

Number	Kind	Date	Number	Kind	Date	Update	
DE 4402766	A1	19950727	DE 4402766	A	19940126	199535	B
EP 664999	A1	19950802	EP 1995250014	A	19950123	199535	E
AU 199510086	A	19950803	AU 199510086	A	19950109	199539	E
CA 2141158	A	19950727	CA 2141158	A	19950126	199542	E
JP 7258018	A	19951009	JP 199510056	A	19950125	199549	E
US 5539017	A	19960723	US 1995376935	A	19950123	199635	E
DE 4402766	C2	19970515	DE 4402766	A	19940126	199724	E
JP 2642324	B2	19970820	JP 199510056	A	19950125	199738	E
AU 682553	B	19971009	AU 199510086	A	19950109	199749	E
EP 664999	B1	19990324	EP 1995250014	A	19950123	199916	E
DE 59505400	G	19990429	DE 59505400	A	19950123	199923	E
			EP 1995250014	A	19950123		

Priority Applications (no., kind, date): DE 4402766 A 19940126

Alerting Abstract DE A1

The use of heat-curable compsns. (A) as **dental** materials or **components** thereof is claimed. Compsns. (A) contain (a) beta-dicarbonyl cpd(s). of formula R1-Z-(Y(ZR1))n-X-Z-R1 (I) as Michael donors; and (b) alpha, beta-unsatd. carboxylate ester(s) of formula R4-Z-(Y(ZR4))m-X-Z-R4 (II) as Michael acceptors. R1 = beta-dicarbonyl function of formula -R3-CO-CHR2-CO-Me (Ia); R2 = H, alkyl or aryl; R3 = O or NH, or R3 may be absent; Y, X = alkylene, **phenylene** or **alkylphenylene** , opt. contg. -O-, -S- or -NH- gps.; Z = alkylene or **phenylene** ; R4 = an acrylate gp. of formula CH2=CR5-CO-O- (IIa); R5 = H, CN or alkyl; and n, m = 0-15. The mean functionality of the mixt. of (a) and (b) is greater than 2, and the compsn. can be hardened in the presence of a catalyst base (c).

Also claimed are formed dental prods. made of hardened compsn. (A), for the replacement or restoration of teeth, pref. in the form of artificial teeth, inlays, onlays, crowns, prostheses or parts of prostheses.

USE - Used for the prodn. of dental prods. (claimed). The compsn. can be used as a filler in a dental material, esp. composite filling materials, dental adhesives, fixing cements or impression materials, or in the hardened form, esp. as artificial teeth, inlays, onlays or crowns (all claimed).

ADVANTAGE - Provides heat-cured compsns. with a short cure time at low temp., good hydrolytic stability, a high degree of hardness and low vol. shrinkage on curing. The **mechanical properties** of the prod. can be varied from hard/brittle to soft/elastic by varying the combination of (a) and (b).

14/5/16 (Item 16 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0006054975

WPI ACC NO: 1992-292191/199235

Related WPI Acc No: 1985-309742; 1986-036977; 1986-063002; 1988-148896; 1988-169126; 1993-035758

XRAM Acc No: C1992-129906

XRPX Acc No: N1992-223829

One component **, visible light curable** dental **impressions - made using e.g. methacrylate-derived polysiloxane(s)**

Patent Assignee: DENTSPLY RES & DEV CORP (DENX)

Inventor: DOUGHERTY E W; WANG W
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 5137448	A	19920811	US 1984636138	A	19840731	199235 B
			US 1986881473	A	19860630	
			US 1988177819	A	19880408	
			US 1991649188	A	19910204	

Priority Applications (no., kind, date): US 1988177819 A 19880408; US 1986881473 A 19860630; US 1984636138 A 19840731; US 1991649188 A 19910204

Alerting Abstract US A

Formation of a dental impression in the oral cavity is effected by (i) engaging a tray contg. a flowable, memory-free compsn. with the surface to be replicated; and (ii) passing actinic light (pref. limited to the visible range 360-600 nm) through the tray to photopolymerise the compsn. to such an extent that it assumes a permanent elastomeric rembered form.

The compsn. is pref. storage-stable for at least 1 month when actinic light-free and assumes a permanent elastomeric memory to 1 inch depth when exposed for 1 min. to light filtered to the above wavelength range. It is pref. a polysiloxane compsn. with pendant C-C double bonds, esp. a homo- or alternate block- or random co-polymer contg. acrylic gps. and of formula R-Ax-By-R (I) where x and y = 0-n where n = 1 or more; R = CH2=C(R')COOR2-, CH2=C(R')COOR2O- or CH2=C(R')COOR2-NH.COO-; R1 = H, F, CN or opt. substd.-alkyl or -aryl; R2 = opt. substd.-alkylene or - **arylene** ; and B = organic gp.

An esp. prefd. compsn. comprises at least 2 polyorganosiloxanes, one with no more than 3 polymerisable acrylic gps. and one with at least 3 such gps.

USE/ADVANTAGE - Accurate dental prosthetics can be formed rapidly using visible light from a 1-component compsn.in

14/5/17 (Item 17 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0002189225
WPI ACC NO: 1981-78080D/198143
Orthodontic bracket **adhesive and abrasive for removal - both compsns. contg. inorganic fillers of controllers Mohs' hardness**
Patent Assignee: MINNESOTA MINING CO (MINN)
Inventor: RANDKLEV R M
Patent Family (10 patents, 9 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
EP 37677	A	19811014	EP 1981301258	A	19810324	198143 B
			EP 1986109252	A	19800408	
JP 56156209	A	19811202				198201 E
US 4695251	A	19870922	US 1980137631	A	19800407	198740 E
			US 1980172218	A	19800725	
			US 1982406500	A	19820809	
			US 1983559401	A	19831208	
			US 1985694477	A	19850123	
CA 1238805	A	19880705				198830 E
EP 37677	B	19881117	EP 1981301258	A	19810324	198846 NCE

			EP 1986109252	A	19800408		
DE 3176935	G	19881222				198901	E
CA 1252636	A	19890418				198920	E
CA 1261992	A	19890926				198945	E
US 4906185	A	19900306	US 1980137631	A	19800407	199016	E
			US 1980172218	A	19800725		
			US 1982406500	A	19820809		
			US 1983559401	A	19831208		
			US 1985694477	A	19850123		
			US 198715662	A	19870217		
JP 1991020253	B	19910319	JP 198151630	A	19810406	199115	E

Priority Applications (no., kind, date): US 198715662 A 19870217; US 1983559401 A 19831208; US 1982406500 A 19820809; US 1980172218 A 19800725; US 1980137631 A 19800407; US 1985694477 A 19850123

Alerting Abstract EP A

Orthodontic brackets are applied to tooth surfaces using a polymerisable compsn., and are removed (together with the adhesive compsn.) using a solid abrasive tool. The polymerisable adhesive compsn. contains a finely divided inorganic material (I) (non-toxic, insol. in mouth fluids, and with Mohs hardness less than 4.5) mixed with a polymerisable resin (III). The solid abrasive tool consists of another inorganic material (II) which is non-toxic, and which has a Mohs hardness greater than that of (I) but less than 5. The **orthodontic bracket** adhesive system has high strength, good workability and rapid set time, but is readily and rapidly removed without excessive damage to tooth enamel. In addn., the abrasive is very effective in general dental work.

Equivalent Alerting Abstract US A

Orthodontic bracket adhesive compsn. comprises finely divided non-toxic inorganic filler admixed with polymerisable resin.The filler is insoluble in mouth fluids, has Mohs hardness less than 3(2) and mean dia. 1-100 (pref. 1-20) micro-m. Filler comprises at least 25% (35%) total wt. the compsn. being adjacent to **orthodontic bracket** and free of adjuvants in amts. that would damage tooth enamel when removing adhesive. filler is pref. selected from kaolinite, mica, pyrophyllite and talc.

Compsn. comprising 25+ wt.% talc particles of dia. 1-100 micro-m, admixed in each part of polymerisable 2-part BIS-GMA resin, with one part contg. catalyst and other an accelerator, the compsn. having properties as described above, is also claimed.

USE/ADVANTAGE - Packaged system for applying and removing **orthodontic brackets** , useful in general **dental** work. Adhesive has high strength, workability and rapid set time. (8pp)d

Equivalent Alerting Abstract US A

Dental abrasive compsn. comprises (a) finely-divided inorganic material admixed with (b) a solid binder. Cpd. (a) is non-toxic and has Mohe hardness less than 5, and comprises equiaxed particles of dia. 190 microns or less, in amt. 30 wt.% or more of compsn.

Pref. (a) comprises calcite, dolomite, or marble; and (b) comprises a crosslinked **rigid polymeric** material prepd. from a phenolic, epoxy, polyester or polyurethane resin, or neoprene rubber, opt. in disc form with a flexible backing.

USE - As a scraping tool, cutting tool, or grinding attachment for a standard powered dental tool, having low hardness to avoid damaging tooth enamel. (8pp)

14/5/18 (Item 18 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0002135362
WPI ACC NO: 1981-21995D/198113
Prosthetic device coated with porous thermoplastic material - with porosity gradient across coating so that better adhesion to load bearing component is promoted
Patent Assignee: UNION CARBIDE CORP (UNIC)
Inventor: BALLINTYN N J; MICHNO M J
Patent Family (11 patents, 7 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
GB 2056882	A	19810325	GB 198319744	A	19790824	198113 B
DE 3024373	A	19810326	DE 3050902	A	19800627	198114 E
FR 2460129	A	19810227				198116 E
JP 56037130	A	19810410	JP 198086674	A	19800627	198122 E
US 4351069	A	19820928	US 197953192	A	19790629	198241 E
			US 1979103399	A	19791213	
CA 1137702	A	19821221				198304 E
GB 2056882	B	19831116	GB 198319744	A	19790824	198346 NCE
CH 644010	A	19840713				198434 E
DE 3050902	A	19840830	DE 3024373	A	19800627	198436 E
DE 3024373	C	19850605	DE 3024373	A	19800627	198524 E
JP 1990005425	B	19900202				199009 E

Priority Applications (no., kind, date): US 197953192 A 19790629; US 1979103399 A 19791213

Alerting Abstract GB A

A prosthetic device comprises a load bearing functional component coated at least partly with a porous thermoplastic material. The coating has an average pore dia. of 90-600 microns, pore interconnections of ave. dia. more than 50 microns and a total porosity greater than 20%. The pores are distributed so that a porosity gradient exists across the coating. The smallest pores are on the inner coating surface and the largest pores on the outer surface.

The thermoplastic material is a polysulphone, **polyphenylene** sulphide, polyacetal, thermoplastic polyester, polycarbonate, aromatic polyamide or polyamideimide, polyimide, polyarylether kerone, polyarylether nitecle or aromatic polyhydroxyether. It has a modulus of elasticity of 250000-500000 psi. non-porous and unreinforced or 500000-3000000 psi. when reinforced. The total creep strain of non-porous, unreinforced material is less than 1% at 1000 psi. at ambient temp.

Hip prostheses, endosteal blade dental implants, intramedullary nails or cancellous or cortical screws. The porous thermoplastic material is conducive to the ingrowth of bone spicules. Stresses on the musculoskeletal system are transferred to bone spicules within the pores of the material. Sufficient load and pore stability are maintained to promote irreversible ossification. The low porosity inner coating layer gives better adhesion to the load bearing component while the more porous outer layer promotes bone ingrowth.

Equivalent Alerting Abstract DE C

Prodn. of an implant, consisting of load-bearing core and a porous

external thermoplastics coating bonded to the core, consists of placing the core in a mould and filling the space between core and mould with sintering particles of thermoplastics of 50-600 micron size, then heating to sinter the particles together to form the porous layer.

In the sintering operation, the particles nearest to the core are heated to a higher temp. than those further out, those near the core being heated to 40 deg.C above sintering temp. and those at the extreme outside surface to 40 deg.C below sintering temp.

USE/ADVANTAGE - For implants in which the sintered surface layer is of polysulphone, **polyphenylene** sulphide, polyacetal, thermoplastic polyester, polycarbonate, aromatic polyamide or polyimide, thermoplastic polyamide, polyaryl ether ketone, polyacryl ether nitrile and aromatic polyhydroxy ether. The implant has a defined porosity gradient within the porous layer, the highest porosity being on the outer side. (7pp)

14/5/19 (Item 19 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0000274204
WPI ACC NO: 1970-24469R/
Teflon coated tooth brace
Patent Assignee: WITTMAN HP, WENICK H, GIG (WIT-I)
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 3504438	A	00000000	US 1965510856	A	19651201	197015 B
			US 1966568185	A	19660727	

Alerting Abstract US A

Various **orthodontic devices** used for straightening badly aligned teeth are conventionally fabricated from such materials as stainless or chrome alloy steels. To improve the appearance of such devices and to reduce sharp edges and corners which are conductive to bacterial growth, the base material is coated with a material selected from the group consisting of polytetrafluoroethylene, trifluoroethylene, vinylidene fluoride, **polyphenylene** oxides, nylon, irradiated modified polyolefins and polycarbonates. The coating may be conveniently applied to the base material as a liquid by dipping, spraying or brushing, or in the form of heat shrink tubing and is preferably coloured to closely match the adjacent teeth.

16/5/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0015946403
WPI ACC NO: 2006-478069/200649
XRAM Acc No: C2006-150853
XRPX Acc No: N2006-388662
Manufacture of antimicrobial and odor inhibiting polymeric material for article e.g. film, by contacting crosslinked graft copolymer with solution comprising chitosan agent consisting chitosan, chitosan salts, or chitosan-metal complexes

Patent Assignee: DU PONT DE NEMOURS & CO E I (DUPO); JOERGER M C (JOER-I) ; SABESAN S (SABE-I)
Inventor: JOERGER M; JOERGER M C; SABESAN S
Patent Family (2 patents, 110 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20060083710	A1	20060420	US 2004619755	P	20041018	200649	B
			US 2005252700	A	20051018		
WO 2006044785	A1	20060427	WO 2005US37229	A	20051018	200649	E

Priority Applications (no., kind, date): US 2004619755 P 20041018; US 2005252700 A 20051018

Alerting Abstract US A1

NOVELTY - Manufacture of antimicrobial and odor inhibiting polymeric material comprises contacting a crosslinked graft copolymer with a solution comprising a chitosan agent consisting of chitosan, chitosan salts, chitosan-metal complexes, or chitosan derivatives.

DESCRIPTION - Manufacture of antimicrobial and odor inhibiting polymeric material comprises mixing a graft monomer with a crosslinking agent to produce a blend; feeding the blend into a hot evaporator under vacuum; flash evaporating the blend through a nozzle; re-condensing the blend onto polymeric material; exposing the re-condensed blend to UV or electron beam radiation, where re-condensed blend and the polymeric material react to form a crosslinked graft copolymer; contacting the crosslinked graft copolymer with a solution comprising a chitosan agent consisting of chitosan, chitosan salts, chitosan-metal complexes, or chitosan derivatives; optionally, contacting the crosslinked graft copolymer with a solution containing a metal salt; and drying the crosslinked graft copolymer, where contacted crosslinked graft copolymer is antimicrobial and odor inhibiting.

USE - The process is for manufacture of antimicrobial and odor inhibiting polymeric material useful for an article consisting of film, a membrane, a laminate, knit fabric, woven fabric, nonwoven fabric, fiber, a filament, yarn, a pellet, coating, foam, a blown article, a solution cast article, a laminated article, all injection molded article, a blow molded article, a thermoformed article, a knit article, a woven article, or a spun article. The article is packaging, a package, a container, a bottle, a box, a jar, a can, a bag, a closed-ended tube, a packaging component, a package for food, a package for a beverage, a packaging liner, a lid, a replaceable container cap, a disposable container cap, film used in packaging, packaging for flesh foods, absorbent pads for flesh food, packaging, a shrink bag, a food tray, fast food packaging, a soft drink bottle neck, food handling apparatus, food processing apparatus, a food dispensing system, a beverage dispensing system, a conveyor belt assembly, components of a conveyor belt assembly, temporary and permanent food preparation surfaces, equipment for food preparation, heat exchangers, drains, buckets, tanks, pipes, tubing, an ingested article, a capsule, a pill, a liquid, an **orthodontic appliance** , a **component** of an **orthodontic appliance** , denture material, a toothbrush, a teeth cleaning appliance, clothing, sportswear, active wear, swimwear, underwear, hosiery, socks, stockings, pantyhose, tights, a leg warmer, a child's garment, a clothing insert, a clothing liner, an underarm shield, a woven or nonwoven liner or insert for foot-wear, an athletic uniform, athletic protective gear, sports pad, shin guard, undergarment that regulates heat or moisture transfer, a household article, fiberfill for pillows, bedding, a mattress, a mattress cover, a bedspread, a blanket, a bed sheet, a pillow, a pillow case, window

treatments, carpet, a flooring component, an upholstery component, foam padding, an automotive wipe, a nonwoven dryer sheet, a laundry softener-containing sheet, a household cleaning wipe, a counter wipe, a towel, a washcloth, a dust cloth, a mop, a tablecloth, a refrigerator component, a refrigerator surface, a shower curtain, a shower curtain liner, a counter surface, a health care article, a bandage, an adhesive, gauze strip, a gauze pad, a cast, medical drape, surgical drape, a medical garment, a hospital gown, a surgical mask, a surgical glove, surgical footwear, surgical head covering, an inhaler, a medical device, a medical implant, a syringe holder, a catheter, a suture, a stent, guide wires, a prosthesis, an orthopedic pin, a dental implant, a pacemaker, a pacemaker lead, defibrillator lead, a heart valve, an artificial heart, a joint implant, bone cement, a vascular graft, a urinary catheter ostomy port, an orthopedic fixture, an ear canal shunt, a cosmetic implant, surgical staples, an implantable pump, a hernia patch, a surgical plate, a surgical screw, a blood bag, an external blood pump, fluid administration systems, a heart-lung machine, a dialysis equipment, artificial skin, ventricular assist devices, a hearing aid, children's articles, a baby bottle, a teething toy, a baby bottle nipple, pacifier, a child's book, plastic scissors, a toy, a diaper pail, a container for cleansing wipes, a personal cleansing wipe, a baby wipe, a personal grooming article, cosmetics, a cosmetics package, a cosmetic wipe, lipstick, lip balm, eye shadow, eyeliner, mascara, body powder, bath powder, blusher, face make-up, shampoo, conditioner, deodorant, antiperspirant, body lotion, body cream, face powder, a pump dispenser, a mascara wand, a medicated wipe, a cosmetics brush, a dropper, a dropper tip, a lipstick applicator, an eyeliner applicator, an eye shadow applicator, a liquid, a solution, a suspension, a personal hygiene article, a diaper, training pants, an incontinence pad, an incontinence garment, a panty liner, a sanitary napkin, a tampon, a tampon applicator, a separation membrane, an ultrafiltration membrane, a microfiltration membrane, transportation container for fluids, storage container for fluids, an air filter, a water filter, a boat component, boat hull, and boat motor. (all claimed)

ADVANTAGE - The process is effective, efficient, and environmentally benign. It provides articles exhibiting antimicrobial and odor development inhibiting functionality because microbial growth is reduced as the article is commonly used, i.e. 99.9% kill of the microbes in 24 hours has been met as measured by the shake flask test, which indicates a minimum requirement of a 3-log reduction in microbial growth.

16/5/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0015921883

WPI ACC NO: 2006-453522/200646

XRAM Acc No: C2006-141788

Dental composition for fixing dental material to tooth enamel and/or dentin, contains acid (meth)acrylamide monomer having two or more polymerizable groups, acid monomer having only one polymerizable group, and polymerization initiator

Patent Assignee: IVOCLAR VIVADENT AG (IVOC-N)

Inventor: MOSZNER N; MUCKE A; MUECKE A; RHEINBERGER V; RHEINBERGER V M; SALZ U; ZEUNE F; ZEUNER F; ZIMMERMAN J; ZIMMERMANN J

Patent Family (4 patents, 38 countries)

Patent Application

Number	Kind	Date	Number	Kind	Date	Update	
US 20060130701	A1	20060622	US 2005212065	A	20050825	200646	B
EP 1674067	A1	20060628	EP 200524095	A	20051104	200646	E
JP 2006176511	A	20060706	JP 2005364113	A	20051216	200646	E
DE 102004061924	A1	20060713	DE 102004061924	A	20041222	200648	E

Priority Applications (no., kind, date): DE 102004061924 A 20041222

Alerting Abstract US A1

NOVELTY - A dental composition contains at least one acid (meth)acrylamide monomer which has two or more polymerizable groups, at least one acid monomer which has only one polymerizable group, and at least one polymerization initiator.

DESCRIPTION - INDEPENDENT CLAIMS are also included for:

1. system comprising the inventive dental composition and a dental material curable by radical polymerization; and

2. fixing of a radically polymerizable dental material to tooth enamel and/or dentin comprising applying the inventive dental composition and a dental material curable by radical polymerization to tooth enamel and/or dentin and polymerizing the dental material.

USE - The composition is used for fixing a radically polymerizable dental material to tooth enamel and/or dentin (claimed).

ADVANTAGE - The composition is hydrolysis-stable and has a high adhesion to tooth enamel and dentin.

16/5/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0015816804

WPI ACC NO: 2006-372862/200638

Related WPI Acc No: 2003-438826; 2004-031274; 2004-374717; 2005-072456; 2005-201665; 2006-078450

XRAM Acc No: C2006-120069

Polymerizable dental glaze, useful in e.g. variety of dental materials, fillings, adhesives, sealants, luting agents and sealants, comprises polymerizable ethylenically unsaturated resin composition, filler composition and a curing system

Patent Assignee: JIA W (JIAW-I); JIN S (JINS-I)

Inventor: JIA W; JIN S

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20060111465	A1	20060525	US 2001287918	P	20010501	200638	B
			US 2001338116	P	20011108		
			US 2002136031	A	20020430		
			US 2002287428	A	20021104		
			US 2003452269	A	20030602		
			US 2003665391	A	20030919		
			US 2003683750	A	20031010		
			US 2005289758	A	20051129		

Priority Applications (no., kind, date): US 2003683750 A 20031010; US

2003665391 A 20030919; US 2003452269 A 20030602; US 2002287428 A 20021104; US 2002136031 A 20020430; US 2001338116 P 20011108; US 2001287918 P 20010501; US 2005289758 A 20051129

Alerting Abstract US A1

NOVELTY - Polymerizable dental glaze (I) comprises: polymerizable, ethylenically unsaturated resin composition; a filler composition consisting essentially of a polyhedral oligomeric silsesquioxane filler; and a curing system.

DESCRIPTION - INEDPENDENT CALIMS are also included for:

1.a method of manufacturing (I); and

2.a method of making a dental restoration comprises applying to dental restoration (I).

USE - (I) is useful in variety of dental materials, treatments, and restorative functions including crown and bridge materials, fillings, adhesives, sealants, luting agents or cements, denture base materials, orthodontic materials and sealants and other dental restorative materials.

ADVANTAGE - (I) is easy to apply and enhance the aesthetic appearance of temporary dental composite restorations.

16/5/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0015674992 - Drawing available

WPI ACC NO: 2006-239181/200625

XRAM Acc No: C2006-078248

Uncured dental composite material, useful for restorative dentistry , **comprises polymerizable (meth)acrylic ester** component , **polymerization initiator compound and filler**

Patent Assignee: BRANDENBURG C J (BRAN-I); COHEN G M (COHE-I); DU PONT DE NEMOURS & CO E I (DUPO)

Inventor: BRANDENBURG C J; COHEN G M

Patent Family (2 patents, 109 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20060058417	A1	20060316	US 2004609756	P	20040914	200625	B
			US 2005225563	A	20050913		
WO 2006031968	A1	20060323	WO 2005US32937	A	20050914	200625	E

Priority Applications (no., kind, date): US 2004609756 P 20040914; US 2005225563 A 20050913

Alerting Abstract US A1

NOVELTY - Uncured dental composite material (A) comprises polymerizable (meth)acrylic ester component comprising diaryl compounds (I), at least one polymerization initiator compound and at least one filler.

DESCRIPTION - Uncured dental composite material (A) comprises polymerizable (meth)acrylic ester component comprising diaryl compounds of formula (I), at least one polymerization initiator compound and at least one filler.

R1= H or CH3;

R2= 2-14C alkylene, 2-8C alkenylene, 5-14C divalent alicyclic hydrocarbon or phenylene (optionally substituted with halo or 1-5C alkyl);

R3= H, acetyl, methyl, ethyl, 3-6C alkyl or benzyl;

A= -[O-R5-CO-]m-O-R4- or -[O-R6-]n-;

R4= 2-3C alkylene;

R5= 2-7C alkylene;

R6= 2-5C alkylene; either

R7= H, CH3, ethyl, 3-6C alkyl or benzyl; or

R7R7= 5-6C aliphatic ring (optionally substituted) (where the carbon of the R7 group is attached to A group); and

m, n= 1-10.

http://imagesrv.dialog.com/imanager/getimage?ref=I034acfd0d97011da86fb0000836
1346f&f=351&type=PNG
USE - (A) is useful for restorative dentistry.
ADVANTAGE - (I) has reduced shrinkage with sufficiently low viscosity, high polymerization rate, and acceptable mechanical properties.

16/5/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0015674991 - Drawing available
WPI ACC NO: 2006-239180/200625
XRAM Acc No: C2006-078247
New 1,1,1-tris(4-hydroxyphenyl)ethane triglycidyl ether succinate derivative useful in uncured dental composite material for restorative dentistry
Patent Assignee: BRANDENBURG C J (BRAN-I); COHEN G M (COHE-I); DU PONT DE NEMOURS & CO E I (DUPO)
Inventor: BRANDENBURG C J; COHEN G M
Patent Family (2 patents, 109 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20060058416	A1	20060316	US 2004609757	P	20040914	200625	B
			US 2005225449	A	20050913		
WO 2006031970	A1	20060323	WO 2005US32939	A	20050914	200625	E

Priority Applications (no., kind, date): US 2004609757 P 20040914; US 2005225449 A 20050913

Alerting Abstract US A1

NOVELTY - 1,1,1-Tris(4-hydroxyphenyl)ethane triglycidyl ether succinate derivative of formula is new.

DESCRIPTION - 1,1,1-Tris(4-hydroxyphenyl)ethane triglycidyl ether succinate derivative of formula (I) is new.

R1= H or CH3;

R2= 2-14C alkylene, 2-8C alkenylene, 5-14C divalent alicyclic hydrocarbon, or a phenylene (optionally substituted by halo or 1-5C alkyl);

R3= H, acetyl, methyl, ethyl, 3-6C alkyl, or benzyl;

R7= H, methyl, ethyl, 3-6C alkyl, phenyl, or benzyl;

A= -[O-R5-C(O)]m-R4- or -[O-R6]n-;

R4= 2-3C alkylene;

R5= 2-7C alkylene;

R6= 2-5C alkylene;and

m and n= 1-10.

INDEPENDENT CLAIMS are included for the following:

1.a polymer made by polymerizing (I) with at least one other polymerizable (meth)acrylic ester component;

2.an uncured dental composite material comprising (I); at least one polymerization initiator compound; and at least one filler; and

3.a dental restoration article that is made by forming and curing the uncured dental composite material.

http://imagesrv.dialog.com/imanager/getimage?ref=I0310ad00d97011da86fb00008361346f&f=351&type=PNG

ACTIVITY - None given.

MECHANISM OF ACTION - None given.

USE - In uncured dental composite material and dental restoration article (claimed) for restorative dentistry; for filling cavities in teeth; for preventative, restorative or cosmetic procedures in teeth; as dental adhesives, primers, bonding agents, pit, fissure sealants, cements, denture base and denture reline **material** , orthodontic splint material, adhesives **for orthodontic** appliances; for making bridges, crowns, inlays, onlays, laminate veneers, and facings; for prosthetic replacement or repair of various hard body structures such as bone; and for reconstructive purposes

during surgery (e.g. oral surgery).
ADVANTAGE - The material exhibits reduced shrinkage with sufficiently low viscosity, high polymerization rate, and acceptable mechanical property.

16/5/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0015674989 - Drawing available
WPI ACC NO: 2006-239178/200625
XRAM Acc No: C2006-078245
Uncured dental composite material, useful for restorative dentistry , **comprises polymerizable (meth)acrylic ester** component , **at least one polymerization initiator compound and at least one filler**
Patent Assignee: ARTHUR S D (ARTH-I); BRANDENBURG C J (BRAN-I); COHEN G M (COHE-I); DOUGLAS C B (DOUG-I); DU PONT DE NEMOURS & CO E I (DUPO); HUANG D D (HUAN-I); JAYCOX G D (JAYC-I); STAMEGNA A P (STAM-I); WILCZEK L (WILC-I)
Inventor: ARTHUR S D; BRANDENBURG C J; COHEN G M; DOUGLAS C B; DOUGLAS G B; HUANG D D; JAYCOX G D; STAMEGNA A P; STAMENGNA A P; WILCZEK L
Patent Family (2 patents, 109 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20060058414	A1	20060316	US 2004609588	P	20040914	200625	B
			US 2005225228	A	20050913		
WO 2006031971	A1	20060323	WO 2005US32940	A	20050914	200625	E

Priority Applications (no., kind, date): US 2004609588 P 20040914; US 2005225228 A 20050913

Alerting Abstract US A1
NOVELTY - Uncured dental composite material (A) comprises polymerizable (meth)acrylic ester component (having triaryl compounds of formula (I) and at least one reaction product (produced by heating a mixture of hyperbranching monomer, chain extenders and molecular weight controlling agent (optional) to give hyperbranced polyester polyol, which is combine with capping agent)), at least one polymerization initiator compound and at least one filler.
DESCRIPTION - Uncured dental composite material (A) comprises polymerizable (meth)acrylic ester component (having triaryl compounds of formula (I) and at least one reaction product (produced by preparing a hyperbranced polyester polyol by heating a mixture of hyperbranching monomer of formula ((R8O)nR9(C(O)OR10)m), chain extenders such as hydroxy carboxylic acid and linear ester of hydroxyl carboxylic acid of formula (R11-O-R12-COOR13) or lactone of a hydroxy carboxylic acid and optionally molecular weight controlling agent of formula (R15-Zk) to give hyperbranced polyester polyol, which is combine with capping agent of formula (X-R16))) (provided that the degree of end capping is at least 25%, with radically polymerizable end groups constituting at least 25% of all end groups), at least one polymerization initiator compound and at least one filler.

R1= H or CH3;

R2= 2-14C alkylene, 2-8C alkenylene,
5-14C divalent alicyclic hydrocarbon
or phenylene (optionally

substituted with halo or 1-5C alkykl);

R3= H, acetyl, methyl, ethyl, 3-6C alkyl or benzyl;

R7= H, CH3, ethyl, 3-6C alkyl or benzyl;

A= -[O-R5-CO-]m-O-R4- or -[O-R6-]n-;

R4= 2-3C alkylene;

R5= 2-7C alkylene;

R6= 2-5C alkylene;

m, n= 1-10;

R8, R11= H or R14-CO;

R9= 1-12C hydrocarbyl moiety (capable of forming m+n single covalent bonds);

R10= H or 1-12C hydrocarbyl radical;

R12= 1-12C hydrocarbyl radical (capable forming 2 single covalent single bonds);

R13= H or 1-12C hydrocarbyl radical;

R14= H or 1-10C hydrocarbyl radical;

R15= 1-10C hydrocarbyl moiety (capable of forming 1-6 single covalent bonds);

Z= OH, carboxyl, amine or epoxy group;

k= 1-6 (equal to the number of covalent bonds capable of being formed on R15);

R16= 1-12C hydrocarbyl radical; and

X= carboxylic acid, carboxylic ester, carboxylic anhydride, carboxylic halide or epoxy.

An INDEPENDENT CLAIM is also included for a dental restoration article that is made by forming and curing (A).

http://imagesrv.dialog.com/imanager/getimage?ref=I027668d0d97011da86fb00008361346f&f=351&type=PNG

USE - (A) is useful for restorative dentistry.

ADVANTAGE - (I) has reduced shrinkage with sufficiently low viscosity, high polymerization rate, and acceptable mechanical properties.

16/5/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0015661088 - Drawing available
WPI ACC NO: 2006-225271/200624
XRAM Acc No: C2006-074165
Heat resistant resin for resin composition, is polymer chosen from aromatic polyether ketone group polymer, aromatic polyether phosphine oxide group polymer and/or polyarylene **group polymer**
Patent Assignee: TORAY IND INC (TORA)
Inventor: ADACHI M; IDEHARA D; NAKAMURA M
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
JP 2006070126	A	20060316	JP 2004253914	A	20040901	200624 B

Priority Applications (no., kind, date): JP 2004253914 A 20040901

Alerting Abstract JP A
NOVELTY - A heat resistant resin is a polymer containing metal salt of sulfonic acid group. The polymer is chosen from aromatic polyether ketone group polymer, aromatic polyether phosphine oxide group polymer and/or **polyarylene** group polymer.
DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

1.resin composition having heat resistant resin as main component;

2.molded product containing heat resistant resin or resin composition; and

3.coating agent containing heat resistant resin or resin composition.

USE - For resin composition for molded product such as film and coating agent (all claimed). The film is used as foodstuffs packaging film, semiconductor packaging film, oxidizing chemical packaging film and accurate material packaging film. Also used for substrate of liquid crystal display portion in television, word processor, personal computer, integrated circuit card, dash board and indicator panel, and motor vehicle **components , dental** material and interior material for aircrafts.
ADVANTAGE - The molded product of the heat resistant resin has excellent mechanical strength and water proof property. The film has excellent transparency, gas barrier property and antistatic property.

16/5/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0015606520 - Drawing available
WPI ACC NO: 2006-170692/200618
XRAM Acc No: C2006-057253
Composition useful in dental applications such as dental prostheses comprises substrate containing cycloolefin groups capable of undergoing metathesis reaction and metal carbene complex catalyst capable of

initiating metathesis reaction
Patent Assignee: KERR CORP (KERR-N)
Inventor: ANGELETAKIS C
Patent Family (2 patents, 37 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 7001590	B1	20060221	US 2004988881	A	20041115	200618	B
EP 1656924	A1	20060517	EP 2005257029	A	20051114	200634	E

Priority Applications (no., kind, date): US 2004988881 A 20041115

Alerting Abstract US B1

NOVELTY - A composition comprises a substrate (at least 0.1 wt.%) containing at least two cycloolefin groups capable of undergoing a metathesis reaction and a metal carbene complex catalyst capable of initiating the metathesis reaction.

DESCRIPTION - A composition comprises a substrate (at least 0.1 wt.%) containing at least two cycloolefin groups capable of undergoing a metathesis reaction and a metal carbene complex catalyst capable of initiating the metathesis reaction. The substrate has the formula [D-C(O)-O-Qc]d-Za. The catalyst is of formula (I) or (II).

a=	1 - 100;
c=	0 or 1;
d=	2 - 4;
Z=	T or C;
T=	linear, branched, cyclic or polycyclic organic residue optionally containing siloxane groups (Si-O-Si) and optionally containing heteroatoms B, N, O, Si, P or S;
Q=	T;
D=	cycloolefinic residue and is different than Q or Z;
M=	ruthenium or osmium;
X=	alkylidene ligand with basicity higher than that of tricyclohexylphosphine (PCy3) (preferably (1,3-dimesitylimidazolidine 2-carbene (substituted at 4 and 5 positions by R'));
R'=	H or phenyl;
X1=	PCy3 or a neutral electron donor ligand with basicity lower than that of PCy3;

X2 and X3=	anionic ligand;
Z1=	O or S;
R1, R2, R5 and A1 - A4=	H or T1;
T1=	1-20C alkyl, 2-20C alkenyl, 2-20C alkynyl, aryl, 1-20C carboxylate, 1-20C alkoxy, 2-20C alkenyloxy, 2-20C alkynyloxy, aryloxy, 2-20C alkoxycarbonyl, 1-20C alkylthio, 1-20C alkylsulfonyl or 1-20C alkylsulfinyl (all optionally substituted);
R4=	T1.

When d is 2 or 3, Z and Q are T; and when d is 4, Z is C and Q is T.
INDEPENDENT CLAIMS are also included for:

1.a composition capable of undergoing a metathesis reaction upon mixing its components; and

2.a two-paste composition capable of undergoing a metathesis reaction at room temperature upon mixing the two pastes together.

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1346f&f=351&type=PNG

USE - In dental applications such as dental prostheses, tooth filling materials, crown and bridge materials, **dental** impression materials and **orthodontic appliances** e.g. **orthodontic brackets** that are optionally fiber reinforced, optical lenses, and electronic device packaging, for cements used in orthopedic surgery, such as for bone cementation and verterbroplasty procedures; as adhesives or protective coatings for automotive, aerospace, architectural, and electric/electronic applications.

ADVANTAGE - The composition provides the controlled metathesis reaction after heating the components.

16/5/9 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0015523428
WPI ACC NO: 2006-087576/200609
XRAM Acc No: C2006-031704

Dental **material (polymerizable by** ring **-opening metathesis polymerization) useful for e.g. operative and prosthetic dentistry, comprises ruthenium complex and cyclic olefin capable of metathesis**

Patent Assignee: DELAUDE L (DELA-I); IVOCLAR VIVADENT AG (IVOC-N); MAJ A (MAJA-I); MOSZNER N (MOSZ-I); NOELS A (NOEL-I)
Inventor: DELAUDE L; MAJ A; MOSZNER N; NOELS A; NOELS A F

Patent Family (3 patents, 35 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update

US 20060004158	A1	20060105	US 2005172008	A	20050630	200609	B
EP 1614410	A1	20060111	EP 2004103088	A	20040630	200609	E
JP 2006045205	A	20060216	JP 2005190799	A	20050629	200614	E

Priority Applications (no., kind, date): EP 2004103088 A 20040630

Alerting Abstract US A1

NOVELTY - **Dental** material (A) (polymerizable by **ring** -opening metathesis polymerization) comprises: at least one ruthenium complex (A) bearing at least one N-heterocyclic carbene ligand or precursors, which is generated in situ; and at least one cyclic olefin capable of metathesis.

USE - (A) is useful for operative and prosthetic dentistry. (A) is also useful as a filling composite, a fixation cement or a veneering material (claimed).

16/5/10 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0015410380

WPI ACC NO: 2005-756328/200577

XRAM Acc No: C2005-230817

Composition, useful to e.g. inhibit bacterial biofilms on devices, comprises a composition e.g. thiol-specific reagent and cationic polypeptide, and thiol-specific reagent and an iron-sequestering glycoprotein

Patent Assignee: MADHYASTHA S (MADH-I)

Inventor: MADHYASTHA S

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20050233950	A1	20051020	US 2004826094	A	20040416	200577	B

Priority Applications (no., kind, date): US 2004826094 A 20040416

Alerting Abstract US A1

NOVELTY - Composition (I) for inhibiting bacterial biofilms on devices comprises a composition (thiol-specific reagent and cationic polypeptide; thiol-specific reagent and an iron-sequestering glycoprotein; or a thiol-specific reagent and quaternary ammonium compound).

DESCRIPTION - An INDEPENDENT CLAIM is also included for the preparation of a device comprises treating at least one surface of the device with (I).

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - None given.

USE - (I) is useful to inhibit bacterial (gram-negative bacterial species (~Escherichia coli ~, ~Proteus mirabilis ~, ~Klebsiella pneumoniae ~ or ~Pseudomonas aeruginosa ~; and gram-positive bacterial species (~Enterococcus faecalis ~ or ~Staphylococcus epidermidis ~)) biofilm formation on devices. (I) is useful to prepare a device (all claimed).

ADVANTAGE - (I) effective against biofilms produced by gram-negative bacterial species (~Escherichia coli ~, ~Proteus mirabilis ~, ~Klebsiella pneumoniae ~ or ~Pseudomonas aeruginosa ~; and gram-positive bacterial species (~Enterococcus faecalis ~ or ~Staphylococcus epidermidis ~) (claimed). (I) is environmental friendly, medically acceptable, effective at lower concentrations and relatively economical to manufacture on a commercial scale. (I) reduces toxicity and other side effects to the user

or patient without sacrificing effectiveness against biofilm formation. (I) shows synergistic effect. The synergistic effect of (I) to inhibit bacterial biofilm formation was tested in catheter-associated bacterial strains. The results showed that N,N-(1,2- **phenylene**) dimaleimide in combination with protamine sulfate showed significant inhibitory effects on the adherence of catheter-associated bacteria to urinary catheter.

16/5/11 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0015352978
WPI ACC NO: 2005-703239/200572
XRAM Acc No: C2005-214040
XRPX Acc No: N2005-576972
Composition useful for reducing biofilm formation on devices, e.g. catheter comprises thiol-specific reagent and at least one of cationic polypeptide, iron-sequestering glycoprotein or quaternary ammonium compound
Patent Assignee: KANE BIOTECH INC (KANE-N)
Inventor: MADHYASTHA S
Patent Family (1 patents, 107 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2005094579	A1	20051013	WO 2005CA493	A	20050401	200572	B

Priority Applications (no., kind, date): US 2004558132 P 20040401

Alerting Abstract WO A1

NOVELTY - A composition comprises a thiol-specific reagent and at least one of cationic polypeptide, an iron-sequestering glycoprotein or a quaternary ammonium compound.

DESCRIPTION - An INDEPENDENT CLAIM is included for preparing a device involving treating at least one surface of the device with the composition.

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - None given.

USE - For inhibiting bacterial biofilms on devices such as medical devices (e.g. catheters (particularly indwelling catheter selected from urinary catheter, a peritoneal catheter, an umbilical catheter, a suction catheter or a mucous extraction catheter), contact lenses, intrauterine **devices** , **dental** prostheses, **orthodontic devices** , stomach tubes, endotracheal tubes, **dental** water lines, compression bandages, tissue dressings, wound dressings, surgical tapes, occlusive patches and external prostheses), pipes, heat exchangers and computer chips); is effective against biofilms produced by gram-negative bacterial species selected from ~Escherichia coli ~, ~Proteus mirabilis ~, ~Klebsiella pneumoniae ~ or ~Pseudomonas aeruginosa ~, is effective against biofilms produced by gram-positive bacterial species selected from ~Enterococcus faecalis ~ or ~Staphylococcus epidermidis ~ (claimed).

ADVANTAGE - The composition requires small amounts of active ingredients (compared to that which has been used in past) to be effective and is economical to manufacture. The composition has a moderate effect on the viability of bacterial cells, but alter their ability to form biofilms significantly. The synergistic composition inhibits biofilm formation on or in devices.

16/5/12 (Item 12 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0015305373
WPI ACC NO: 2005-655555/200567
XRAM Acc No: C2005-198076
Two- component dental **material useful in bite impression material, a dental cement for dental medicine comprises compound having vinyl group, organohydrogen silicon compound and catalyst**
Patent Assignee: KETTENBACH GMBH & CO KG (KETT-N)
Inventor: BUBLEWITZ A; NAGEL U; REBER J
Patent Family (3 patents, 34 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20050171233	A1	20050804	US 200545920	A	20050128	200567	B
DE 102004005562	A1	20050825	DE 102004005562	A	20040203	200567	E
EP 1561449	A1	20050810	EP 200425383	A	20041026	200567	E

Priority Applications (no., kind, date): DE 102004005562 A 20040203

Alerting Abstract US A1
NOVELTY - A two- **component dental** material cross-linked by addition such as hydrosilylation comprises at least one compound (A) having at least two vinyl groups in the molecule; at least one organohydrogen silicon compound (B); and at least one catalyst. At least one of (A) or (B) comprises a first structural unit comprising at least one voluminous or rigid group and a second structural unit comprising at least two alkenyl-functional or hydrogen-functional silyl units.
DESCRIPTION - A two- **component , dental** material cross-linked by addition such as hydrosilylation comprises at least one compound (A) having at least two vinyl groups in the molecule; at least one organohydrogen silicon compound (B); and at least one catalyst. At least one of (A) or (B) comprises a first structural unit comprising at least one voluminous or rigid group and a second structural unit comprising at least two alkenyl-functional or at least two hydrogen-functional silyl units of formula -Si(R1)(R2)-CH=CH2 or -Si(R3)(R4)H. The second structural unit is bound to the first structural unit either directly; by way of an oxygen atom; by way of a spacer group; or by way of a spacer group bound to the first structural unit by way of an oxygen atom.
R1 and R2= alkyl, (alkyl)aryl, aralkyl (all optionally halogenated), alkenyl, cyanoalkyl, siloxy, cycloalkyl or cycloalkenyl; and

R3 and R4= H or R1.

USE - In a bite impression material, a dental cement, a temporary crown and bridge material, a temporary filling material, a permanent filling material useful in dental medicine or dental technology (claimed).
ADVANTAGE - The material has a greater Shore D hardness or a higher modulus of elasticity compared to known materials. The material has excellent mechanical properties, particularly outstanding strength and high modulus of elasticity. It is excellently suited for uses in dental medicine and dental technology.

16/5/13 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0014914998
WPI ACC NO: 2005-262680/200527
XRAM Acc No: C2005-083055
XRPX Acc No: N2005-215745
Orthopedic implant device for use by implantation in contact with bone, has bone-contacting surface made of osteointegration-improving material comprising polymer having pendant highly hydrophilic groups and overall charge
Patent Assignee: UNIV CAMBRIDGE TECH SERVICES LTD (UYCA-N)
Inventor: BONFIELD W; BROOKS R A; HABIB M; LEWIS A L; STRATFORD P W
Patent Family (1 patents, 106 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
WO 2005027991	A1	20050331	WO 2004GB4000	A	20040917	200527 B

Priority Applications (no., kind, date): EP 2003255889 A 20030919

Alerting Abstract WO A1
NOVELTY - An orthopedic implant device has a surface that will, in use, contact a bone formed of osteointegration-improving material. The material comprises a polymer having pendant highly hydrophilic groups and having an overall charge at physiological pH.
DESCRIPTION - INDEPENDENT CLAIMS are also included for:

1. use of a polymer in the manufacture of an orthopedic device having the polymer in the material of the surface of the device that will in use contact the bone to increase the osteointegration of the device, increase adhesion of osteoblasts to the device, increase the rate of mineralization on the surface of the device, or increase the level of expression of alkaline phosphatase in osteoblasts growing on the surface of the device, in which the material comprises the above polymer;

2. a surgical method, comprising implanting the above orthopedic implant device into an animal in contact with the bone; and

3. a process of manufacturing the orthopedic device in which a device body is provided at least on part of its bone-contacting surface with a coating of the above polymer.

USE - For use by implantation in contact with a bone.
ADVANTAGE - The inventive device, e.g. a replacement bone implant, utilizes a material having improved osteointegration properties, which would be useful to form the surface of the inventive device, which is based on a fundamentally bio-inert material adapted for specific interaction with osteoblasts.

16/5/14 (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0014764699
WPI ACC NO: 2005-112357/200512
XRAM Acc No: C2005-037582
Remineralizing dental cement used e.g. to adhere orthodontics brackets **to tooth structure, comprises sources of calcium and phosphate ions, adhesive resin monomers, reinforcing base resin monomers, and catalyst**
Patent Assignee: ADA FOUND (ADAA-N)
Inventor: DICKENS S; DICKENS S H; EICHMILLER F; EICHMILLER F C
Patent Family (3 patents, 107 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2005002531	A1	20050113	WO 2004US21275	A	20040702	200512	B
US 20050020720	A1	20050127	US 2003484404	P	20030702	200512	E
			US 2004883011	A	20040702		
EP 1641426	A1	20060405	EP 2004756561	A	20040702	200624	E
			WO 2004US21275	A	20040702		

Priority Applications (no., kind, date): US 2004883011 A 20040702; US 2003484404 P 20030702

Alerting Abstract WO A1

NOVELTY - Remineralizing **dental** cement comprises a resin monomer **component** comprising a polymerizable reinforcing base resin monomer, a polymerizable adhesive resin monomer and optionally a polymerizable diluent monomer, at least one polymerization initiator, a source of calcium ions and a source of phosphate ions.

DESCRIPTION - Remineralizing dental cement comprises:

1. a resin monomer component comprising a polymerizable reinforcing base resin monomer, a polymerizable adhesive resin monomer and optionally a polymerizable diluent monomer;

2. at least one polymerization initiator;

3. a source of calcium ions, and

4. a source of phosphate ions.

The content of the polymerizable adhesive resin monomer is 5-65 wt.% of the resin monomer component and the content of the source of calcium ions and the source of phosphate ions is at least 5-75 wt.% of the cement.

INDEPENDENT CLAIMS are also included for:

1. preparation of the remineralizing dental cement which comprises mixing a paste A containing a polymerizable reinforcing base resin monomer, a first polymerization initiator, and optionally a first polymerizable diluent monomer, with a paste B containing a polymerizable adhesive resin monomer, a second polymerization initiator and optionally a second polymerizable diluent monomer;

2. a kit for preparing the remineralizing dental cement which comprises the paste A and paste B, and instructions for mixing paste A with paste B to form the dental cement, and

3. promoting remineralization of at least one portion of a tooth which comprises contacting the portion of the tooth with the remineralizing

dental cement, where the portion is remineralized.

At least one of paste A and paste B comprises a source of calcium ions and a source of phosphate ions to provide 5-75 wt.% calcium ions and the phosphate ions in the remineralizing dental cement.

USE - Used to adhere **orthodontics brackets** to the tooth structure, to cement fixed dental prostheses, as protective tooth coating (including on a smooth surface of a tooth), as a pit and/or fissure sealant, as a dental filling material, and as a protective cavity base or liner.

ADVANTAGE - The cement protects the tooth structure adjacent to brackets or restorative devices and counteracts the deleterious effects of bacterial acids by actively promoting remineralization.

16/5/15 (Item 15 from file: 350)

0014478402
WPI ACC NO: 2004-011539/200401
XRAM Acc No: C2004-003246

Photosensitive adhesive composition for dental use contains a bifunctional monomer with a photo-labile center flanked by polymerizable units, which loses integrity and adhesion when decrosslinked by irradiation

Patent Assignee: DESVERGNE J (DESV-I); DIERAS F (DIER-I); GAUD V (GAUD-I); GNANOU Y (GNAN-I); PROD DENTAIRES ROLLAND PIERRE (DENT-N); ROUBIERE A (ROUB-I)
Inventor: DESVERGNE J; DESVERGNE J P; DIERAS F; GAUD V; GAUD V D; GNANOU Y; GNANOU Y M D; ROUBIERE A; ROUBIERE A M

Patent Family (8 patents, 100 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2003082218	A2	20031009	WO 2003FR1029	A	20030402	200401	B
FR 2838048	A1	20031010	FR 20024179	A	20020403	200401	E
AU 2003240983	A1	20031013	AU 2003240983	A	20030402	200435	E
EP 1490014	A2	20041229	EP 2003730301	A	20030402	200502	E
			WO 2003FR1029	A	20030402		
US 20050182148	A1	20050818	WO 2003FR1029	A	20030402	200555	E
			US 2005510112	A	20050411		
JP 2005533754	W	20051110	JP 2003579761	A	20030402	200574	E
			WO 2003FR1029	A	20030402		
CN 1649559	A	20050803	CN 2003809900	A	20030402	200578	E
AU 2003240983	A8	20051027	AU 2003240983	A	20030402	200624	E

Priority Applications (no., kind, date): FR 20024179 A 20020403

Alerting Abstract WO A2

NOVELTY - Resin-based photosensitive adhesive composition (I) with a hardening initiator contains bifunctional monomer(s) comprising a photo-labile center and at least 2 polymerizable units covalently bonded to the center on either side of the cleavage site(s), such that (I) loses integrity and adhesion under the action of decrosslinking radiation causing cleavage at the photo-labile sites.

DESCRIPTION - Photosensitive adhesive composition (I) based on resins which are hardened by polymerisation and/or crosslinking, contains:

1.chain polymerisation initiator(s) for hardening; and

2.bifunctional monomer(s) comprising a photo-labile center with photo-labile unit(s) and at least 2 polymerizable units linked to the center by covalent skeletons on either side of the cleavage site(s) of the center, such that (I) loses its integrity and adhesion under the action of decrosslinking radiation causing cleavage at the photo-labile sites.

INDEPENDENT CLAIMS are also included for:

1.bifunctional oligomeric or prepolymeric monomers with a comb-like structure comprising a linear main chain and side branches with a photo-labile unit next to the main chain and polymerizable units at the ends of the branches;

2.bifunctional monomers as above with a hyper-branched structure, obtained by polycondensation of precursor monomers AB2 or AB3; and

3.a method (M1) for the production of bifunctional monomers as above by synthesis of the photo-labile center, followed by structural conversion and attachment of polymerizable units.

USE - For various clinical applications in dentistry, especially for sticking elements onto tooth surfaces or for filling cavities in teeth (claimed). Adhesive applications include, e.g. fixing crowns, veneers, inlays, **orthodontic brackets** etc. to teeth, and industrial applications requiring a temporary adhesive.

ADVANTAGE - Curable, adhesive dental compositions which can be removed from tooth surfaces when required (e.g. when removing **orthodontic appliances**) by a decrosslinking reaction induced by irradiation at a certain wavelength. Other advantages include non-toxicity/ease of application (liquid composition with no solvents) and the possibility of using the same light source with different filters for crosslinking (hardening) and decrosslinking.

16/5/16 (Item 16 from file: 350)

0014291882
WPI ACC NO: 2004-478577/200445
XRAM Acc No: C2004-178263
XRPX Acc No: N2004-377273

Barrier for minimizing damage caused to first polymeric bioactive agent-containing surface upon medical device, e.g. stent, by second surface comprises block copolymers or polymers bearing latent reactive groups

Patent Assignee: BOUCHA-RAYLE M C (BOUC-I); KLOKE T M (KLOK-I); LAWIN L R (LAWI-I); SURMODICS INC (SURM-N)
Inventor: BOUCHA-RAYLE M C; KLOKE T M; LAWIN L R

Patent Family (6 patents, 106 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20040111144	A1	20040610	US 2002313234	A	20021206	200445	B
WO 2004052420	A2	20040624	WO 2003US38788	A	20031205	200445	E
AU 2003298006	A1	20040630	AU 2003298006	A	20031205	200472	E
EP 1567203	A2	20050831	EP 2003796727	A	20031205	200561	E

			WO 2003US38788	A	20031205		
JP 2006511261	W	20060406	WO 2003US38788	A	20031205	200625	E
			JP 2004559356	A	20031205		
AU 2003298006	A8	20051103	AU 2003298006	A	20031205	200629	E

Priority Applications (no., kind, date): US 2002313234 A 20021206

Alerting Abstract US A1

NOVELTY - A barrier is adapted to be positioned between a first surface provided in the form of a polymeric, bioactive agent-containing coating upon a medical device and a second surface provided by another material positioned and movable in apposition to the first surface. The barrier comprises block copolymers or polymers bearing latent reactive groups.

USE - For minimizing the damage caused to a first surface comprising polymeric, bioactive agent-containing composition upon a surface of an implantable medical device, e.g. vascular **device** , orthopedic **device** , **dental device** , drug delivery **device** , ophthalmic **device** , urological device, balloon-expandable stent, or synthetic prostheses, by a second surface (claimed).

ADVANTAGE - The barrier provides protection to the polymeric composition from mechanical damage and/or delamination during fabrication, storage, delivery or deployment and/or residence of the device within the body.

16/5/18 (Item 18 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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0013962069 - Drawing available
WPI ACC NO: 2004-142762/
XRAM Acc No: C2004-057365
XRPX Acc No: N2004-113846
Prepreg for forming composite used in dental and/or medical devices , **e.g. removable denture and** orthodontic appliance , **comprises curable matrix having pore volume filled with antimicrobial agent**
Patent Assignee: STICK TECH OY (STIC-N)
Inventor: TANNER J; VALLITTU P; WALTIMO T
Patent Family (2 patents, 101 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2003105785	A1	20031224	WO 2003FI468	A	20030612	200414	B
AU 2003240904	A1	20031231	AU 2003240904	A	20030612	200451	E

Priority Applications (no., kind, date): FI 20021126 A 20020612

Alerting Abstract WO A1

NOVELTY - A prepreg comprises an antimicrobial agent, fibers and a curable matrix. The matrix consists of at least a first curable material and contains pores having 0.5-95 % of its volume filled with the antimicrobial agent.

DESCRIPTION - INDEPENDENT CLAIMS are also included for:

1.preparation of a prepreg comprising incorporating the antimicrobial agent a prefabricated porous prepreg; and

2.a composite obtainable by curing a prepreg.

ACTIVITY - Antimicrobial.
No biological data available.
MECHANISM OF ACTION - None given.
USE - The invention is useful for forming a composite used in **dental** and/or medical **devices** , such as removable denture, permanent partial denture, temporary fixed partial denture, **orthodontic appliance** , root canal filling, root canal post, periodontal splint, tooth filling, crown, maxillofacial prostheses, canyle, catheter, orthopedic external supporting device and endosseal implants (claimed).
ADVANTAGE - The invention acts as carrier material for antimicrobial agent offering simultaneously a reinforcing effect for use in dentistry and medicine. It would be able to contain an antimicrobial agent for a significant period of time and at the same time, being able to release the agent at a predetermined rate.
DESCRIPTION OF DRAWINGS - The figure illustrates the weight increase of a prepreg during immersion in water.

16/5/19 (Item 19 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0013819303 - Drawing available
WPI ACC NO: 2003-671373/200363
XRAM Acc No: C2003-183087
XRPX Acc No: N2003-536087
Forming polymeric coating on support surface of e.g. medical device, by applying grafting reagent comprising photoinitiator and monomer solution to surface and activating grafting reagent
Patent Assignee: AMOS R A (AMOS-I); CHAPPA R A (CHAP-I); CHUDZIK S J (CHUD-I); DUQUETTE P H (DUQU-I); EVERSON T P (EVER-I); STUCKE S M (STUC-I); SURMODICS INC (SURM-N); SWAN D G (SWAN-I)
Inventor: AMOS R A; CHAPPA R A; CHUDZIC S J; CHUDZIK S J; DUQUETTE P H; EVERSON T P; STUCKE S M; SWAN D G
Patent Family (5 patents, 99 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2003055611	A1	20030710	WO 2002US41143	A	20021220	200363	B
US 20030165613	A1	20030904	US 200128518	A	20011221	200365	E
AU 2002360736	A1	20030715	AU 2002360736	A	20021220	200421	E
EP 1465740	A1	20041013	EP 2002796018	A	20021220	200467	E
			WO 2002US41143	A	20021220		
JP 2005514192	W	20050519	WO 2002US41143	A	20021220	200538	E
			JP 2003556180	A	20021220		

Priority Applications (no., kind, date): US 200128518 A 20011221

Alerting Abstract WO A1
NOVELTY - Forming a polymeric coating on a support surface comprises applying a non-polymeric grafting reagent comprising a photoinitiator group and a polymerizable monomer solution to a surface to coat the surface and polymerize the monomers upon activation of the grafting reagent.
DESCRIPTION - INDEPENDENT CLAIMS are also included for:

1.a support surface having a polymeric coating prepared as above, and

2.a device comprising a surface having a polymeric coating prepared as

above.

USE - Used for forming a polymeric coating on a porous support surface of medical devices or biomedical devices. The medical device includes grafts, stents, stent/graft combinations, valves, heart assist devices, shunts, and anastomoses devices, catheters, orthopedic devices including joint implants, fracture repair **devices** , and artificial tendons, **dental devices** comprising **dental** implants and **dental** fracture repair **devices** , intraocular lenses, surgical devices including sutures and patches, synthetic prostheses and artificial organs including artificial lung, kidney, and heart devices, short-term devices including vascular devices, acute and chronic hemodialysis catheters, cooling/heating catheters, or percutaneous transluminal coronary angioplasty catheters or ophthalmic devices including contact lenses and glaucoma drain shunts. The biomedical device includes gene chips, DNA chip arrays, microarrays, protein ships, fluorescence ~in situ ~ hybridization slides, cDNA or oligonucleotide arrays, blood sampling and testing components, functionalized microspheres, tubing and membranes, blood bags, membranes, cell culture devices, chromatographic support materials and biosensors.

ADVANTAGE - The method forms a thin, conformable, uniform, uncrosslinked coating having desired properties e.g. lubricity, hemocompatibility, thickness, wettability/hydrophilicity, durability of attachment to the surface, biocompatibility, and reduced bacterial adhesion, onto the preformed, porous, polymeric substrate. The polymeric coating has a thickness of less than 100 nm.

16/5/21 (Item 21 from file: 350)

0013247546 - Drawing available
WPI ACC NO: 2003-332763/200331
XRAM Acc No: C2003-086193

Dental root canal filling cones includes filler, and thermoplastic polymer formed by polymerization of polymerizable diepoxide monomer and amine monomer

Patent Assignee: DENTSPLY INT INC (DENX); KLEE J E (KLEE-I)
Inventor: KLEE J E; KLEE E

Patent Family (8 patents, 27 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2003015718	A1	20030227	WO 2002US25004	A	20020806	200331	B
US 20030045604	A1	20030306	US 2001312017	P	20010813	200331	E
			US 2002213320	A	20020806		
EP 1416901	A1	20040512	EP 2002756998	A	20020806	200431	E
			WO 2002US25004	A	20020806		
JP 2005515166	W	20050526	WO 2002US25004	A	20020806	200535	E
			JP 2003520679	A	20020806		
EP 1416901	B1	20051026	EP 2002756998	A	20020806	200571	E
			WO 2002US25004	A	20020806		
US 20050267232	A1	20051201	US 2001312017	P	20010813	200579	E
			US 2002213320	A	20020806		
			US 2005195316	A	20050802		
DE 60206933	E	20051201	DE 60206933	A	20020806	200580	E
			EP 2002756998	A	20020806		
			WO 2002US25004	A	20020806		

DE 60206933	T2	20060727	DE 60206933	A	20020806	200649	E
			EP 2002756998	A	20020806		
			WO 2002US25004	A	20020806		

Priority Applications (no., kind, date): US 2005195316 A 20050802; US 2001312017 P 20010813; US 2002213320 A 20020806

Alerting Abstract WO A1

NOVELTY - Providing a soluble and thermoplastic dental root canal cone that is easy to remove, that undergoes a connection to the thermopalstic sealer and which provides a radio-opacity of at least 3 m/mm AI. and root canal sealers more compatible.

DESCRIPTION - Dental root canal filling cones comprises filler and thermoplastic polymer. The thermoplastic polymer is formed by polymerization of polymerizable diepoxide monomer and amine monomer. The amine monomers are primary monoamine and/or disecondary diamine. The filler comprises 40-90 wt.% of the cones providing a radio-opacity of >= 3 mm/mm aluminum.

An INDEPENDENT CLAIM is included for a method for the preparation of dental root canal filling cones.

USE - For dental root canal filling.

ADVANTAGE - The invention is easy to remove, undergoes a connection to a thermoplastic sealer, and provides a radio-opacity of >= 3 mm/mm aluminum.

16/5/22 (Item 22 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0013031700 - Drawing available

WPI ACC NO: 2003-110563/

XRAM Acc No: C2003-028302

XRPX Acc No: N2003-087899

Nanocomposite for use in dental applications comprises silicate platelets, surface modifier ion exchanged to each silicate platelet and resin absorbed into regions spacing silicate platelets

Patent Assignee: DENTAL TECHNOLOGIES INC (DENT-N)

Inventor: STADTMUELLER L

Patent Family (1 patents, 1 countries)

Patent			Application			
Number	Kind	Date	Number	Kind	Date	Update
US 20020132875	A1	20020919	US 2000259045	P	20001229	200310 B
			US 200134807	A	20011228	

Priority Applications (no., kind, date): US 2000259045 P 20001229; US 200134807 A 20011228

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20020132875	A1	EN	9	2	Related to Provisional US 2000259045

Alerting Abstract US A1

NOVELTY - A nanocomposite for use in dental applications comprises silicate platelets (SP), one or more regions spacing the SP from each other, at least one surface modifier ion-exchanged to each of the SP and a resin absorbed into the regions spacing the SP. The platelets and resin form an intercalated or exfoliated structure.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1. A method for making a nanocomposite which involves providing silicate platelets (SP) having regions spacing the plurality of SP from each other, ion-exchanging at least one surface modifier to the surface of SP, absorbing a resin into the regions spacing SP and modifying the dentally compatible resin such that an exfoliated structure is created.

2. Usage of the resin-silicate layered nanocomposite for dental applications.

USE - For use in tooth restorations, **dental appliances** , **orthodontic appliances** , bite plate, **appliances** , denture base resins, temporary and permanent crowns and bridges (claimed) as sealants, core materials, adhesives, bonding agents, veneering materials, cements, dentures, inlayers, microfill composites, flowable composite, compomers, anterior composites, posterior composites, resin modified glass ionomers and/or condensable composite.

ADVANTAGE - The nanocomposite improves the properties of dental products by substantially influencing the material strength, durability, longevity, barrier properties and other physical characteristics. The composite material is capable of withstanding high mastication forces, temperature extremes and other external stresses. The material is colored to match the tooth shade and is more easily concealed under a crown than dark metallic amalgam.

DESCRIPTION OF DRAWINGS - The figure shows surface modifiers spreading apart the gallery regions of the layered silicate platelets.

16/5/24 (Item 24 from file: 350)

0011161532 - Drawing available
WPI ACC NO: 2002-098987/200214
XRAM Acc No: C2002-030992

Acrylic phosphonic acid compounds, useful as an adhesive, polymer, composite, cement, molded article or dental material, are novel.

Patent Assignee: IVOCLAR VIVADENT AG (IVOC-N)
Inventor: MOSZNER N; RHEINBERGER V; RUMPHORST A; ZEUNER F

Patent Family (9 patents, 28 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 1148060	A1	20011024	EP 2001107896	A	20010411	200214	B
CA 2344134	A1	20011017	CA 2344134	A	20010412	200214	E
DE 10018968	C1	20020110	DE 10018968	A	20000417	200214	E
US 20020016384	A1	20020207	US 2000250698	P	20001201	200217	E
			US 2001834799	A	20010413		
JP 2002012598	A	20020115	JP 2001116222	A	20010413	200220	E
EP 1148060	B1	20030910	EP 2001107896	A	20010411	200360	E
DE 50100589	G	20031016	DE 50100589	A	20010411	200369	E
			EP 2001107896	A	20010411		
US 6710149	B2	20040323	US 2000250698	P	20001201	200421	E
			US 2001834799	A	20010413		
JP 3616346	B2	20050202	JP 2001116222	A	20010413	200511	E

Priority Applications (no., kind, date): EP 2001107896 A 20010411; DE 10018968 A 20000417

Alerting Abstract EP A1

NOVELTY - Novel acrylic phosphonic acid compounds are claimed

DESCRIPTION - Acrylic phosphonic acid compounds (I) of formula (1) are claimed.

INDEPENDENT CLAIMS are included for:

1.a dental material containing the acrylic phosphonic acid (I) and

2.polymers and copolymers prepared by (co)polymerization of the acrylic phosphonic acid (I).

http://imagesrv.dialog.com/imanager/getimage?ref=I5845c5e056e811dabe8e0000836 1346f&f=351&type=PNG

R1= 1-10C alkylene or 6-14 C alkylene;

R2= H, 1-10C alkyl or 6-10C aryl;

Y= oxygen, sulfur, 1-8C alkylene or is missing;

n= 1-5;

X= CN when 1 is 1 and Z is missing;

X= CONR3 with R3 equal to H, 1-10C alkyl or 6-10C aryl whereby when n is 1, Z is H or 1-10C alkyl or phenyl and when n=2-5, Z is an aliphatic, aromatic or araliphatic 1-14C hydrocarbon whereby Z and R3 may form part of an overall ring

USE - The acrylic phosphonic acid (I) is useful as an adhesive, polymer, composite, cement, molded article or dental material and is at least partially in polymerized form (claimed).

ADVANTAGE - The acrylic acid phosphonic acid (I) has improved resistance to hydrolysis.

16/5/25 (Item 25 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0011154311 - Drawing available

WPI ACC NO: 2002-091580/200213

XRAM Acc No: C2002-028438

Acrylic phosphonic acid monoesters, useful as an adhesive, polymer, composite, cement, molded article or dental material, are novel.

Patent Assignee: IVOCLAR VIVADENT AG (IVOC-N)

Inventor: MOSZNER N; RHEINBERGER V; ZEUNER F

Patent Family (10 patents, 28 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update

EP 1148071	A2	20011024	EP 2001107895	A	20010411	200213	B
CA 2344130	A1	20011017	CA 2344130	A	20010412	200213	E
DE 10018969	A1	20011108	DE 10018969	A	20000417	200213	E
US 20010044513	A1	20011122	US 2000250711	P	20001201	200213	E
			US 2001835751	A	20010416		
JP 2001354682	A	20011225	JP 2001116225	A	20010413	200216	E
US 6350839	B2	20020226	US 2000250711	P	20001201	200220	E
			US 2001835751	A	20010416		
EP 1148071	B1	20040616	EP 2001107895	A	20010411	200439	E
DE 50102572	G	20040722	DE 50102572	A	20010411	200450	E
			EP 2001107895	A	20010411		
JP 3612287	B2	20050119	JP 2001116225	A	20010413	200507	E
DE 10018969	B4	20051013	DE 10018969	A	20000417	200568	E

Priority Applications (no., kind, date): EP 2001107895 A 20010411; DE 10018969 A 20000417

Alerting Abstract EP A2

NOVELTY - Novel acrylic phosphonic acid monoesters are claimed.

DESCRIPTION - Acrylic phosphonic acid monoesters (I) of formula (1), their stereoisomers and mixtures are claimed. INDEPENDENT CLAIMS are included for:

1.a dental material containing the acrylic phosphonic acid monoesters (I); and

2.polymers and copolymers prepared by (co)polymerization of the acrylic phosphonic acid monoester (I).

http://imagesrv.dialog.com/imanager/getimage?ref=Id0f48300570111dabe8e0000836 1346f&f=351&type=PNG

R1= 1-20C alkyl or 6-14C aryl;

R2= H, 1-5C alkyl or phenyl;

R3= 1-8C alkylene, phenylene or a single bond;

Y= oxygen, 1-8C alkylene or is a single bond;

m= 0 or 1;

n= 1 or 2 whereby Y, m and R3 cannot simultaneously be 0, O and a single bond respectively and when m is 1 and n is 1, X is H, 1-5C alkyl or 6-14C aryl, when m is 1 and n is 2 X is 1-10C alkylene, 6-10C arylene , 7-20C arylalkylene or a chemical bond

USE - The acrylic phosphonic monoester (I) is useful for the production of adhesives, cement, filler, composite or molded articles, preferably a dental article and is at least partially in polymerized form (claimed).

ADVANTAGE - The acrylic phosphonic monoester (I) has improved solubility

in water and improved resistance to hydrolysis.

16/5/26 (Item 26 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0010378020
WPI ACC NO: 2000-116460/200010
XRAM Acc No: C2000-035561
XRPX Acc No: N2000-088182
Medical article for stents, orthopedic prostheses, catheters, surgical instruments and guide wires
Patent Assignee: SURMODICS INC (SURM-N)
Inventor: ANDERSON A B; CHAPPA R A; EVERSON T P
Patent Family (12 patents, 23 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 1999064086	A1	19991216	WO 1999US12533	A	19990604	200010	B
AU 199944190	A	19991230	AU 199944190	A	19990604	200022	E
EP 1085918	A1	20010328	EP 1999927236	A	19990604	200118	E
			WO 1999US12533	A	19990604		
US 6254634	B1	20010703	US 199895371	A	19980610	200140	E
JP 2002517286	W	20020618	WO 1999US12533	A	19990604	200242	E
			JP 2000553153	A	19990604		
JP 3421652	B2	20030630	WO 1999US12533	A	19990604	200343	E
			JP 2000553153	A	19990604		
MX 2000011677	A1	20020401	WO 1999US12533	A	19990604	200363	E
			MX 200011677	A	20001127		
EP 1085918	B1	20031119	EP 1999927236	A	19990604	200377	E
			WO 1999US12533	A	19990604		
AU 766892	B	20031023	AU 199944190	A	19990604	200381	E
DE 69912951	E	20031224	DE 69912951	A	19990604	200408	E
			EP 1999927236	A	19990604		
			WO 1999US12533	A	19990604		
ES 2212566	T3	20040716	EP 1999927236	A	19990604	200447	E
MX 226102	B	20050204	WO 1999US12533	A	19990604	200565	E
			MX 200011677	A	20001127		

Priority Applications (no., kind, date): US 199895371 A 19980610

Alerting Abstract WO A1
NOVELTY - A medical article has a support coated with an intermediate layer comprising functional silicone polymer formulation. A target compound is further photo immobilized into the intermediate layer.
DESCRIPTION - INDEPENDENT CLAIMS are also included for (i) a method of fabricating a medical article and (ii) a method of using a medical article in which the article is fabricated and positioned upon a material to be used.
USE - For stents, orthopedic prostheses, catheters, surgical instruments, **dental** implants and guide **wires** .
ADVANTAGE - The medical article is suited to contortions movements during implantations and has durability and tenacity.

16/5/27 (Item 27 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0010182395 - Drawing available
WPI ACC NO: 2000-492156/200044
XRAM Acc No: C2000-148011
Dental material, useful as compound, cement, filling material, bonding or coating, contains polysiloxane based on silane with (alkyl)acrylated alkyl- or acyl-aminoalkyl group
Patent Assignee: IVOCLAR AG (IVOC-N); IVOCLAR VIVADENT AG (IVOC-N)
Inventor: MOSZNER N; RHEINBERGER V; STEIN S; VOELKEL T; VOLKEL T
Patent Family (10 patents, 28 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 1022012	A2	20000726	EP 2000250006	A	20000111	200044	B
DE 19903177	A1	20000727	DE 19903177	A	19990121	200044	E
JP 2000212018	A	20000802	JP 200011634	A	20000120	200050	E
CA 2296227	A1	20000721	CA 2296227	A	20000119	200051	E
DE 19903177	C2	20010726	DE 19903177	A	19990121	200142	E
US 6569917	B1	20030527	US 1999156507	P	19990928	200337	E
			US 2000488489	A	20000120		
CA 2296227	C	20030617	CA 2296227	A	20000119	200347	E
DE 29924636	U1	20040708	DE 29924636	U	19990121	200444	E
			DE 19903177	U	19990121		
EP 1022012	B1	20051123				200577	E
DE 50011664	G	20051229	DE 50011664	A	20000111	200603	E
			EP 2000250006	A	20000111		

Priority Applications (no., kind, date): DE 29924636 U 19990121; DE 19903177 A 19990121

Alerting Abstract EP A2

NOVELTY - Dental material contains polysiloxane(s) based on silane(s) (I), which has an alkyl- or acyl-aminoalkyl group with 1-6 (alkyl)acryloyloxy substituents, and optionally other silicon, aluminum, zirconium, titanium, boron, tin, vanadium and/or phosphorus compound(s) capable of hydrolytic condensation.

DESCRIPTION - Dental material contains polysiloxane(s) based on silane(s) of formula (I), which has an alkyl- or acyl-aminoalkyl group with 1-6 (alkyl)acryloyloxy substituents, and optionally other silicon, aluminum, zirconium, titanium, boron, tin, vanadium and/or phosphorus compound(s) capable of hydrolytic condensation;

http://imagesrv.dialog.com/imanager/getimage?ref=I5a7708b0f37311da8ea40000836
1346f&f=351&type=PNG

X= halogen, hydroxyl (OH), alkoxy and/or acyloxy;

n= 1-3;

R1= alk(en)yl, aryl, alkylaryl or arylalkyl;

R2= alkylene;

R3= a linear, branched or cyclic, saturated or unsaturated, aromatic aliphatic organic group with 2-40 carbon (C) atoms, optionally 1-6

hetero-atoms and p substituents;

R6= a linear, branched or cyclic 1-20 C organic group with q substituents or is absent;

p, q= 1-6;

Y= -NR4-, N or -(C=O)-NH-;

R4= alkyl or aryl;

Z= oxygen (O), sulfur (S), -(C=O)-O-, -(C=O)-NH- or -O-(C=O)-NH- or is absent;

W= CH2=CR5-(C=O)-O-;

R5= hydrogen (H) or alkyl;

m= 2 if

Y= N; and

m= 1 if

Y= NR4- or -(C=O)-NH-.

USE - The dental material is used as a compound, cement, filling material or bonding (all claimed) and as coating material.

ADVANTAGE - The polysiloxane can be incorporated covalently in organic-inorganic composite materials and the material contains no thioether groups (which are sensitive to oxidation) or spiro groups.

16/5/28 (Item 28 from file: 350)

0009690807 - Drawing available
WPI ACC NO: 1999-206652/199918
XRAM Acc No: C1999-060321

Polymerizable dental material

Patent Assignee: 3M ESPE AG (MINN); ESPE DENTAL AG (ESPE-N)
Inventor: BISSINGER P

Patent Family (6 patents, 28 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 904766	A2	19990331	EP 1998118365	A	19980929	199918	B
DE 19742981	A1	19990401	DE 19742981	A	19970929	199919	E
AU 199887146	A	19990415	AU 199887146	A	19980929	199926	E
JP 11158023	A	19990615	JP 1998275628	A	19980929	199934	E
US 6075068	A	20000613	US 1998161947	A	19980929	200035	E
AU 752582	B	20020926	AU 199887146	A	19980929	200268	E

Priority Applications (no., kind, date): DE 19742981 A 19970929

Alerting Abstract EP A2

NOVELTY - A polymerizable dental material, optionally containing fillers, is based on polymerisable monomers and/or polymers with a chemical structure such that partial or final hardening is brought about by ring-opening metathesis polymerisation.

DESCRIPTION - Dental material is claimed containing (a) 5-70 wt% polymerisable monomers and/or polymers with a structure such that partial or final hardening is brought about by ring-opening metathesis polymerisation (ROMP), (b) 0-95 wt% fillers, (c) 0.01-15 wt% initiator(s) or initiator system and (d) 0-95 wt% conventional additives, including pigments, X-ray opacifiers and/or thixotropic agents. The amount of (c) is based on that of (a); the amounts of other components are based on (a) + (b) + (d).

USE - For the production of polymerisable filling materials, fixing cements, bonding mixtures, inlays, onlays, veneers, temporary crown and bridge materials, dental laboratory materials, model materials and impression materials (claimed).

ADVANTAGE - Dental materials which undergo rapid polymerisation to partly or fully cured materials with a low volume shrinkage, a low tendency to abrasion and good mechanical properties.

16/5/30 (Item 30 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0009264004 - Drawing available

WPI ACC NO: 1999-192453/199917

XRAM Acc No: C1999-056680

New dental materials, e.g. filling materials or cements

Patent Assignee: 3M ESPE AG (MINN); ESPE DENTAL AG (ESPE-N)

Inventor: BISSINGER P

Patent Family (8 patents, 28 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 904767	A2	19990331	EP 1998118366	A	19980929	199917	B
DE 19742980	A1	19990401	DE 19742980	A	19970929	199919	E
AU 199887147	A	19990415	AU 199887147	A	19980929	199926	E
JP 11158022	A	19990615	JP 1998275028	A	19980929	199934	E
US 6147136	A	20001114	US 1998162454	A	19980929	200060	E
AU 736342	B	20010726	AU 199887147	A	19980929	200149	E
EP 904767	B1	20051214	EP 1998118366	A	19980929	200602	E
DE 59813275	G	20060119	DE 59813275	A	19980929	200612	E
			EP 1998118366	A	19980929		

Priority Applications (no., kind, date): EP 1998118366 A 19980929; DE 19742980 A 19970929

Alerting Abstract EP A2

NOVELTY - Polymerizable dental material, optionally containing fillers, is based on oligomers and/or polymers obtained by ring-opening metathesis polymerisation (ROMP) and containing groups which enable hardening by radical or cationic polymerisation or by a cement reaction.

DESCRIPTION - Dental material contains:

1.5-70 wt% reactive oligomers and/or polymers,

2.0-95 wt% fillers,

3.0.01-3 wt% initiator(s) or initiator system and

4.0-95 wt% conventional additives, including pigments, X-ray opacifiers and/or thixotropic agents.

The amount of (c) is based on that of (a); the amounts of other components are based on (a) + (b) + (d).
5-100 wt% of component (a) consists of compounds of formula (I) or (II).

http://imagesrv.dialog.com/imanager/getimage?ref=I1042e35056fb11dabe8e00008361346f&f=351&type=PNG
X= CH2, NH, O or S;

m, n= 10-20,000;

R1= -CHR4-CHR5-, -CR4=CR5-, a tetrahydrofuran-2,5-dione-3,4- diyl or 2,5-dihydrofuran-2,5-dione-3,4-diyl group as shown (A or B), 2-10C alkylene, alkenylene or epoxyalkylene, or 6-15C o- arylene (optionally substituted with alkyl, OH, NH2, OR6, -CONHR6, PO3H, SO3H, Cl, Br or F;

R1'= -CHR4-CHR5-, -CR4=CR5- or a group (A) or (B);

R2-R5= H, 1-15C alkyl, COOR6, CONHR6, PO3H, SO3H or OH;

R6= H, or a linear, branched or cyclic, optionally unsaturated 1-30C alkyl or aryl group with 0-10 oxygen or nitrogen atoms and 0-5 carbonyl groups.

http://imagesrv.dialog.com/imanager/getimage?ref=I10396d7056fb11dabe8e00008361346f&f=351&type=PNG
USE - For the production of filling materials, fixing cements, bonding mixtures, inlays, onlays, veneers, temporary crown and bridge materials, dental laboratory materials, model materials and impression materials (claimed).
ADVANTAGE - Dental materials based on reactive oligomers and polymers obtained by ROMP show improved properties, especially low volume shrinkage in the case of radically- polymerized systems and improved mechanical properties in the case of cement systems.

16/5/32 (Item 32 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0009003458
WPI ACC NO: 1998-559087/199848
XRAM Acc No: C1998-167431

Hydrolysable and polymerisable vinylcyclopropanesilanes - which are starting materials for silicic acid condensates useful e.g. as components dental **materials**

Patent Assignee: IVOCLAR AG (IVOC-N); IVOCLAR VIVADENT AG (IVOC-N)
Inventor: MOSZNER N; RHEINBERGER V; STEIN S; VOELKEL T; ZEUNER F

Patent Family (8 patents, 27 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 867444	A2	19980930	EP 1998250096	A	19980320	199848	B
DE 19714320	A1	19981001	DE 19714320	A	19970325	199848	E
JP 10298187	A	19981110	JP 199877594	A	19980325	199904	E
CA 2232915	A	19980925	CA 2232915	A	19980323	199909	E
US 6034151	A	20000307	US 199752605	P	19970715	200019	E
			US 199847592	A	19980325		
CA 2232915	C	20011211	CA 2232915	A	19980323	200203	E
EP 867444	B1	20031008	EP 1998250096	A	19980320	200370	E
DE 59809834	G	20031113	DE 59809834	A	19980320	200375	E
			EP 1998250096	A	19980320		

Priority Applications (no., kind, date): EP 1998250096 A 19980320; DE 19714320 A 19970325

Alerting Abstract EP A2

Hydrolysable and polymerisable vinylcyclopropanesilanes of formula (I) and stereoisomers of these are claimed: in which R = H, substituted or unsubstituted 1-12C alkyl, 7-15C alkylaryl or 6-14C aryl or R33-xXxSi-R4-R1-R2-; R1 is absent or equal to substituted or unsubstituted 1-18C alkylene, 6-18C **arylene** , 7-18C **alkylenearylene** or - **arylenealkylene** , these residues optionally being interrupted by at least one group selected from ether-, thioether-, ester-, carbonyl-, amide- and urethane groups or carrying one of these groups in a terminal position; R2 is absent or = substituted or unsubstituted 1-18 C alkylene, 6-18C **arylene** , 7-18C **alkylenearylene** or 7-18C **arylenealkylene** , these residues optionally being interrupted by at least one group selected from ether-, thioether-, ester-, carbonyl-, amide- and urethane groups or carrying one of these groups in a terminal position; R3 is absent or = substituted or unsubstituted 1-18C alkyl, 2- 18C alkenyl, 6-18C aryl, 7-18C alkylaryl or 7-18C arylalkyl, these residues optionally being interrupted by at least one group selected from ether-, thioether-, ester-, carbonyl-, amide- and urethane groups; R4 is absent or = substituted or unsubstituted -CHR6-CHR6-, -CHR6-CHR6-S-R5-, -S-R5-, -Y-CO-NH-R5- or -CO-O-R5-; R5 = substituted or unsubstituted 1-18C alkylene, 6-18C **arylene** , 6-18C **alkylenearylene** or 6-18C **arylenealkylene** , these residues optionally being interrupted by at least one group selected from ether-, thioether-, ester-, carbonyl-, amide- and urethane groups ; R6 = H, substituted or unsubstituted 1-18C alkyl or 6-10C aryl; R7 = H, substituted or unsubstituted 1-10C alkyl, halogen or hydroxy; R8 = H, or substituted or unsubstituted 1-10C alkyl; R9 is absent or = substituted or unsubstituted 1-10C alkylene; W is absent or = carbonyl, ester, thioether, amide or urethane group; Y = O or S; a = 1, 2 or 3; b = 1, 2 or 3; c = 1-6; and x = 1, 2 or 3 with the proviso that (i) (a+x) = 2, 3 or 4 and (ii) a and/or b =

1.

USE - The (I) can be polymerised or hydrolysed and condensed, optionally in the presence of further hydrolysable compounds, to give polymers and silicic acid condensates useful as binders, adhesives, coatings, fillers in composite materials, and especially as dental filling materials.

ADVANTAGE - The (I) polymerise with low polymerisation shrinkage and give polymers and composites with high mechanical strength.

16/5/33 (Item 33 from file: 350)

0008315081
WPI ACC NO: 1997-426495/199740
XRAM Acc No: C1997-136626

Functionalised bicyclic (meth)acrylate!(s) with norbornenyl or norbornadienyl groups - useful as room temperature hardening dental materials and easily obtained by Diels-Alder reaction.

Patent Assignee: IVOCLAR AG (IVOC-N); IVOCLAR VIVADENT AG (IVOC-N)
Inventor: MOSZNER N; RHEINBERGER V; VOGEL K; ZEUNER F

Patent Family (10 patents, 11 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
DE 19608316	A1	19970828	DE 19608316	A	19960222	199740	B
EP 792881	A1	19970903	EP 1997250039	A	19970221	199740	E
JP 9323913	A	19971216	JP 199739599	A	19970224	199809	E
CA 2198190	A	19970822	CA 2198190	A	19970221	199813	E
US 5962703	A	19991005	US 1997803202	A	19970221	199948	E
JP 3016743	B2	20000306	JP 199739599	A	19970224	200016	E
DE 19608316	C2	20001109	DE 19608316	A	19960222	200057	E
EP 792881	B1	20010620	EP 1997250039	A	19970221	200136	E
DE 59703838	G	20010726	DE 59703838	A	19970221	200143	E
			EP 1997250039	A	19970221		
CA 2198190	C	20021210	CA 2198190	A	19970221	200305	E

Priority Applications (no., kind, date): DE 19608316 A 19960222

Alerting Abstract DE A1

Functionalised bicyclic (meth)acrylates of formulae (I) and (II) and their stereoisomers and (co)polymers are claimed, as are their preparations.

(I) is obtained by Diels-Alder reaction of a substituted diene (meth)acrylic compound (III) with substituted dienophile (IV).

(II) is obtained by condensation of a bicyclic compound (V) with a polyhydroxy compound (VI).

A-B = C-C or C=C; X = CH2O, O, NCOOR, NCOR, NCONR2 or NSO2R; R = optionally substituted 1-12C alkyl or 6-14C aryl; Z = CH2=CHCO- or CH2=C(Me)CO-; V = 1-6C alkyleneoxy, CH2S, CH2NH or COO-(1-6C)alkyleneoxy; Y = H, 1-12C alkyl, 6-14C aryl, halogen, NO2, NR12, OR1, CN, COR1, CONR12, COOR1, SR1, SO2R1 or SO3R1; R1 = H, optionally substituted 1-12C alkyl, 6-14C aryl or -(CH2CH2)nH; n = 1-10; T = as for Y (excluding H) or T and Y together form -CO-O-CO- or -CO-NR1-CO-; U = 1-12C alkyleneoxy, CO-NR4-, COO or O; R4 = H or optionally substituted 1-12C alkyl or 6-14C aryl; W = 1-12C alkylene, 6-14C **arylene** , 8-16C aralkylene or -[(CH2)2O(CH2)2]n; m = 2-4; and C-D = as for A-B.

USE - Used in dental materials, especially in dentine adhesives.

ADVANTAGE - (I) and (II) are easily prepared and harden by a radical mechanism at room temperature. They can be polymerised by ring-opening metathesis polymerisation.

16/5/34 (Item 34 from file: 350)

0007650195
WPI ACC NO: 1996-269956/
XRAM Acc No: C1996-085860

High filler content polymerisable particulate dental materials - comprise polymerisable monomer(s) and/or oligomer, polymerisation initiator, opt. accelerator, filler and dendrimer, and remain fluid under pressure and/or shear due to inclusion of dendrimer

Patent Assignee: IVOCLAR AG (IVOC-N)
Inventor: BURTSCHER P; MOSZNER E; MOSZNER N; RHEINBERGER V; VOELKEL T

Patent Family (11 patents, 11 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 716103	A2	19960612	EP 1995250279	A	19951117	199628	B
DE 4443702	A1	19960613	DE 4443702	A	19941208	199629	E
AU 199540206	A	19960613	AU 199540206	A	19951201	199631	E
CA 2164175	A	19960609	CA 2164175	A	19951130	199640	E
JP 8231864	A	19960910	JP 1995316671	A	19951205	199646	E
AU 677531	B	19970424	AU 199540206	A	19951201	199725	E
JP 2702694	B2	19980121	JP 1995316671	A	19951205	199808	E
US 5886064	A	19990323	US 1995568260	A	19951206	199919	E
EP 716103	B1	19990512	EP 1995250279	A	19951117	199923	E
DE 59505902	G	19990617	DE 59505902	A	19951117	199930	E
			EP 1995250279	A	19951117		
CA 2164175	C	20001114	CA 2164175	A	19951130	200063	E

Priority Applications (no., kind, date): DE 4443702 A 19941208

Alerting Abstract EP A2

Polymerisable particle compsns. (I) which are fluid under pressure and/or shear contain the following components: (A) at least one polymerisable monomer and/or oligomer; (B) polymerisation initiator; (C) opt. accelerator; (D) at least 70 wt.% filler; and (E) 0.5-28 wt.% dendrimer.

Dental materials contg. (I) are also claimed.

USE - (I) are useful as **dental** materials or **components** for these, or for the prepn. of dental materials (claimed), e.g. as tooth fillings or for the prepn. of inlays, onlays, crowns, bridges or false teeth.

ADVANTAGE - The high filler content renders the compsn. particulate in spite of the high viscosity, making the materials readily plastically formable, as well as improving the stability of the cured polymer over time.

16/5/36 (Item 36 from file: 350)

0006400532
WPI ACC NO: 1993-201323/

XRAM Acc No: C1993-089810
XRPX Acc No: N1993-154405
Photopolymerising resin compsn. giving cured prod. having improved light transmittance - comprises vinyl! polymer and alpha-diketone, for use in dental resins, paints and adhesives
Patent Assignee: NIPPON OILS & FATS CO LTD (NIOF)
Inventor: INOMATA K; MATSUMOTO T; YAMADA S
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
JP 5127379	A	19930525	JP 1991313033	A	19911102	199325	B

Priority Applications (no., kind, date): JP 1991313033 A 19911102

Alerting Abstract JP A

A new photopolymerising resin compsn. contains a vinyl type polymer(s) having a structural unit(s) of formula (I) and an alpha-diketone(s) of formula (II). In the formula R1 = H or CH3; R2 and R3 = H, alkyl or phenyl; X = O atom, **phenylene** , -C-O(O)-R4-O-, -C(O)-O-(CH2-CH-O-)n, -C(O)-(CH2-)n-C(OH)-CH2-O or -C6H4-(CH2)m-O- (R4 = 1-6C alkylene or alkylidene; R5 = H or CH3; n = 1-6; m = 0-7); Y and Z (independent) = opt. substitd. hydrocarbon bonded directly or through a divalent, opt. substd. hydrocabron; alternatively, Y and Z constitute a condensed aromatic ring).

USE/ADVANTAGE - The compsn. cures through photopolymerisation and gives a cured prod. having good surface cure, good light transmittancy and high cure depth, useful for paints, adhesives, printing plates, printed **wire** boards and **dental** resins.

16/5/37 (Item 37 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0006362019 - Drawing available
WPI ACC NO: 1993-160236/199320
XRAM Acc No: C1993-070754
Dental adhesive giving stronger adhesion to dentine - contains carbonyl cpd. with polymerisable vinyl! gp.
Patent Assignee: IVOCLAR AG (IVOC-N)
Inventor: RHEINBERGER V; SALZ U
Patent Family (12 patents, 11 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
DE 4137076	A1	19930513	DE 4137076	A	19911112	199320	B
DE 4137076	C2	19930812	DE 4137076	A	19911112	199320	E
EP 546648	A1	19930616	EP 1992250312	A	19921027	199324	E
AU 199227409	A	19930513	AU 199227409	A	19921028	199326	E
CA 2082132	A	19930513	CA 2082132	A	19921104	199330	E
JP 5255034	A	19931005	JP 1992302711	A	19921112	199344	E
AU 650580	B	19940623	AU 199227409	A	19921028	199430	E
JP 1996025854	B2	19960313	JP 1992302711	A	19921112	199615	E
US 5519071	A	19960521	US 1992974456	A	19921112	199626	E
			US 1995394198	A	19950224		
EP 546648	B1	19970416	EP 1992250312	A	19921027	199720	E
DE 59208355	G	19970522	DE 59208355	A	19921027	199726	E
			EP 1992250312	A	19921027		
CA 2082132	C	19981027	CA 2082132	A	19921104	199902	E

Priority Applications (no., kind, date): DE 4137076 A 19911112

Alerting Abstract DE A1

The dental adhesive contains a polymerisable mono- or poly-functional carbonyl cpd. (I) which (a) has at least 1 polymerisable vinyl gp., and (b) has at least 1 carbonyl gp. and a 2nd carbonyl gp. or other functional gp. in the beta-position to this carbonyl gp. The carbonyl cpd. has formula (i) or (ii) (where R1 = (cyclo)alkyl, alkoxy and/or aryl; R2, R3 = O(cyclo)alkyl, alkoxy and/or aryl or H; X = O, NR, NH or S or is absent; and R1, R2 and/or R3 is substd. with a gp. Y contg. a polymerisable vinyl gp.; Y = (substd.) (meth)acrylic acid, styryl, vinyl or allyl gp., opt. substd. with COOH (opt. as part of an ester, amide or thioester gp.), OH, alkyl, halogen and/or CN.

USE/ADVANTAGE - The adhesive is used to give a permanent and firm bond between a tooth material and a filling. Adhesion to dentine is stronger, and compactness at the edges is better

16/5/40 (Item 40 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0005683832

WPI ACC NO: 1991-295584/

XRAM Acc No: C1991-127787

Light-curable orthodontic bracket **adhesive - contg. particulate filler material, acrylate! based resin and photoinitiator compsn. to catalyse polymerisation**

Patent Assignee: GINGI-PAK (GING-N); SANKIN KOGYO IND LTD KK (SANK-N); SANKIN KOGYO KK (SNKM)

Inventor: RAMIREZ R L; TSUNEKAWA M

Patent Family (2 patents, 2 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 1991013913	A	19910919	WO 1991US1601	A	19910308	199140	B
US 5112880	A	19920512	US 1990491002	A	19900309	199222	E

Priority Applications (no., kind, date): US 1990491002 A 19900309

Alerting Abstract WO A

A light-curable **orthodontic bracket** adhesive compsn. comprises (a) approximately 25-80 wt.% of particulate filler (pref. a fluoride-releasing filler) having an average particle size of about 0.4-1 micron; (b) approximately 20-75 wt.% of a light curable acrylate-based resin; and (c) a catalytically effective amt. of a photoinitiator compsn. comprising approximately 2-10 wt.% of a tert. amine reducing agent selected from N,N-diethylamino-p-toluidine, 2-methacryloxyethyl(p-N,N-dimethyl) aminobenzoate, dimethylamino benzoic acid or its esters, dimethylaminoethyl methacrylate, and morpholinoethyl methacrylate, and approximately 0.4-1.0 wt.% alpha,beta-diketone relative to said resin. Bonding an **orthodontic bracket** to the surface of a human tooth comprises coating the bracket with a layer of the above compsn.; applying the bracket to said surface to give rise to a tooth-bracket interface; and irradiating said layer with visible light for an irradiation period of 5-50 seconds.

Pref. the resin contains at least one methacrylate monomer selected from 2,2-bis-p-(2'-hydroxy-3'-methacryloxy -propoxy)- **phenylene** -propane,

bis-phenol-A dimethacrylate, etc.
ADVANTAGE - this compsn. provides for consistent high bond strength and virtually no bracket drift during use. It achieves a rapid strong bond to both tooth and bracket without need for priming the tooth or bracket. It enables easy removal of excess adhesive after application of the bracket and does not require excessive clean-up of the teeth because there is no excess primer to remove. The fluoride-releasing adhesive substantially prevents decalcification of tooth surfaces adhered to and adjacent to the bracket during a prolonged period of use. @(23pp Dwg.No.0/0)

Equivalent Alerting Abstract US A
Light-curable **orthodontic bracket** adhesive compsn. comprises (a) 60-80 wt.% particulate strontium alumino-fluorosilicate filler of particle (i) 0.4-1 micron; (b) 20-40 wt.% of light-curable resin; and (c) photo-initiator compsn. as catalyst. Cpd. (b) comprises 5-25 wt.% of 2,2-bis (-(2'-hydroxy-3' -methacryloxypropoxy) - **phenylene** -propane (Bis-GMA), 5-10wt.% triethyleneglycol dimethacrylate, and 2-3 wt.% 2-hydroxyethyl methacrylate. Cpd. (c) comprises 2-10 wt.% 2-methacryloxyethyl (p-N,N-dimethyl) aminobenzoate and 0.4-1.0 wt.% camphorquinone.
USE -
For bonding bracket to the surface of a human tooth.

16/5/42 (Item 42 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0004469995
WPI ACC NO: 1988-212749/
Related WPI Acc No: 1982-11504J
XRAM Acc No: C1988-094984
XRPX Acc No: N1988-162198
Sintered bio-engineering thermoplastic article prodn. - by heating resin particles with fraction(s) having bimodal size distribution
Patent Assignee: AMOCO CORP (STAD)
Inventor: KWIATKOWSK G T; MICHNO M J; SMAROOK W H; SPECTOR M
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 4756862	A	19880712	US 1977787531	A	19770414	198830 B
			US 1978377	A	19781229	
			US 1980113317	A	19800118	
			US 1982417586	A	19820913	
			US 1984614374	A	19840524	
			US 1986878515	A	19860623	

Alerting Abstract US A
Prepn. of a sintered bioengineering thermoplastic with optimised porosity and mechanical strength comprises: (a) forming a mixt. of particulate sinterable bioengineering thermoplastic(s) from polysulphones, **polyphenylenesulphides** , polyacetals, thermoplastic polyester, polycarbonates, aromatic polyamides, aromatic polyamideimides, thermoplastic polyimides, polyaryletherketones, polyarylethernitriles and aromatic polyhydroxyethers, the mixt. having at least one fraction of a bimodal distribution of ave. particle dias. 7:1-5:1; (b) heating the mixt. at a temp. and for a time sufficient to sinter the components to give a

porous prod. which does not rely on another component for its structural integrity, the prod. having (i) an ave. pore dia. of 90-600 microns, (ii) pore interconnections having ave. dias. of over 50 microns, and (iii) a porosity of over 25%; and (c) recovering and using the prod. as a prosthesis. Pref. the mixt. contains a sintering additive in amt. sufficient to lower the temp. and/or shorten the time necessary for sintering.

USE/ADVANTAGE - Useful as a coating on prosthetic devices and for prodn. of anatomically shaped porous structures useful for reconstruction. The materials combine melt processability with structural strength, rigidity, creep resistance, toughness and steam sterilisability. The porosity provides for optimum tissue ingrowth, enabling firm and permanent anchoring into the musculoskeletal system.

16/5/43 (Item 43 from file: 350)

0002371958

WPI ACC NO: 1982-11504J/198251

Prosthetic device has porous surface portion - of engineering thermoplastic sintered from particles of bimodal size distribution

Patent Assignee: UNION CARBIDE CORP (UNIC)

Inventor: KWIATKOWSK T; MICHNO M J; SMAROOK W H; SPECTOR M

Patent Family (1 patents, 1 countries)

Patent			Application			
Number	Kind	Date	Number	Kind	Date	Update
US 4362681	A	19821207	US 1977787531	A	19770414	198251 B
			US 1978377	A	19781229	
			US 1980113317	A	19800118	
			US 1986878515	A	19860623	

Priority Applications (no., kind, date): US 1980113317 A 19800118

Alerting Abstract US A

A prosthetic device (10) is formed in at least a surface portion of a sintered porous engineering thermoplastic material (16). The thermoplastic (16) is a polysulphone, **polyphenylene** sulphide, polyacetal, thermoplastic polyester, polycarbonate, aromatic polyamide or polyamideimide, thermoplastic polyimide, polyarylether ketone, polyarylether nitrile or aromatic polyhydroxyether. It is in the form of particles having a bimodal distribution of average particle diameters with a ratio of 5:1 to 7:1 between the average diameters of the two modes.

The prosthesis can be orthopaedic, dental or maxillofaciol, e.g. bone gap bridges, bone caps or alreolar ridge augmentation implants. The porosity of the sintered material (16) is such that it becomes firmly and permanently anchored into the musculoskeletal system by tissue ingrowth. The thermoplastic is biocompatible with and conductive for the ingrowth of bone spicules.

19/5/1 (Item 1 from file: 350)

0015305373

WPI ACC NO: 2005-655555/200567
XRAM Acc No: C2005-198076
Two- component dental **material useful in bite impression material, a dental cement for dental medicine comprises compound having vinyl group, organohydrogen silicon compound and catalyst**
Patent Assignee: KETTENBACH GMBH & CO KG (KETT-N)
Inventor: BUBLEWITZ A; NAGEL U; REBER J
Patent Family (3 patents, 34 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20050171233	A1	20050804	US 200545920	A	20050128	200567	B
DE 102004005562	A1	20050825	DE 102004005562	A	20040203	200567	E
EP 1561449	A1	20050810	EP 200425383	A	20041026	200567	E

Priority Applications (no., kind, date): DE 102004005562 A 20040203

Alerting Abstract US A1

NOVELTY - A two- **component** **dental** material cross-linked by addition such as hydrosilylation comprises at least one compound (A) having at least two vinyl groups in the molecule; at least one organohydrogen silicon compound (B); and at least one catalyst. At least one of (A) or (B) comprises a first structural unit comprising at least one voluminous or rigid group and a second structural unit comprising at least two alkenyl-functional or hydrogen-functional silyl units.

DESCRIPTION - A two- **component** , **dental** material cross-linked by addition such as hydrosilylation comprises at least one compound (A) having at least two vinyl groups in the molecule; at least one organohydrogen silicon compound (B); and at least one catalyst. At least one of (A) or (B) comprises a first structural unit comprising at least one voluminous or rigid group and a second structural unit comprising at least two alkenyl-functional or at least two hydrogen-functional silyl units of formula -Si(R1)(R2)-CH=CH2 or -Si(R3)(R4)H. The second structural unit is bound to the first structural unit either directly; by way of an oxygen atom; by way of a spacer group; or by way of a spacer group bound to the first structural unit by way of an oxygen atom.

R1 and R2= alkyl, (alkyl)aryl, aralkyl (all optionally halogenated), alkenyl, cyanoalkyl, siloxy, cycloalkyl or cycloalkenyl; and

R3 and R4= H or R1.

USE - In a bite impression material, a dental cement, a temporary crown and bridge material, a temporary filling material, a permanent filling material useful in dental medicine or dental technology (claimed).

ADVANTAGE - The material has a greater Shore D hardness or a higher modulus of elasticity compared to known materials. The material has excellent mechanical properties, particularly outstanding strength and high modulus of elasticity. It is excellently suited for uses in dental medicine and dental technology.

19/5/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0002135362

WPI ACC NO: 1981-21995D/198113

Prosthetic device coated with porous thermoplastic material **- with porosity gradient across coating so that better adhesion to load bearing component is promoted**

Patent Assignee: UNION CARBIDE CORP (UNIC)

Inventor: BALLINTYN N J; MICHNO M J

Patent Family (11 patents, 7 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
GB 2056882	A	19810325	GB 198319744	A	19790824	198113	B
DE 3024373	A	19810326	DE 3050902	A	19800627	198114	E
FR 2460129	A	19810227				198116	E
JP 56037130	A	19810410	JP 198086674	A	19800627	198122	E
US 4351069	A	19820928	US 197953192	A	19790629	198241	E
			US 1979103399	A	19791213		
CA 1137702	A	19821221				198304	E
GB 2056882	B	19831116	GB 198319744	A	19790824	198346	NCE
CH 644010	A	19840713				198434	E
DE 3050902	A	19840830	DE 3024373	A	19800627	198436	E
DE 3024373	C	19850605	DE 3024373	A	19800627	198524	E
JP 1990005425	B	19900202				199009	E

Priority Applications (no., kind, date): US 197953192 A 19790629; US 1979103399 A 19791213

Alerting Abstract GB A

A prosthetic device comprises a load bearing functional component coated at least partly with a porous **thermoplastic material** . The coating has an average pore dia. of 90-600 microns, pore interconnections of ave. dia. more than 50 microns and a total porosity greater than 20%. The pores are distributed so that a porosity gradient exists across the coating. The smallest pores are on the inner coating surface and the largest pores on the outer surface.

The **thermoplastic material** is a polysulphone, **polyphenylene** sulphide, polyacetal, thermoplastic polyester, polycarbonate, aromatic **polyamide** or **polyamideimide** , polyimide, polyarylether kerone, polyarylether nitecle or aromatic polyhydroxyether. It has a **modulus** of **elasticity** of 250000-500000 **psi** . non-porous and **unreinforced** or 500000-3000000 psi. when reinforced. The total creep strain of non-porous, **unreinforced** material is less than 1% at 1000 psi. at ambient temp.

Hip prostheses, endosteal blade dental implants, intramedullary nails or cancellous or cortical screws. The porous **thermoplastic material** is conducive to the ingrowth of bone spicules. Stresses on the musculoskeletal system are transferred to bone spicules within the pores of the material. Sufficient load and pore stability are maintained to promote irreversible ossification. The low porosity inner coating layer gives better adhesion to the load bearing component while the more porous outer layer promotes bone ingrowth.

Equivalent Alerting Abstract DE C

Prodn. of an implant, consisting of load-bearing core and a porous external thermoplastics coating bonded to the core, consists of placing the core in a mould and filling the space between core and mould with sintering particles of thermoplastics of 50-600 micron size, then heating to sinter the particles together to form the porous layer.

In the sintering operation, the particles nearest to the core are heated to a higher temp. than those further out, those near the core being heated

to 40 deg.C above sintering temp. and those at the extreme outside surface to 40 deg.C below sintering temp.

USE/ADVANTAGE - For implants in which the sintered surface layer is of polysulphone, **polyphenylene** sulphide, polyacetal, thermoplastic polyester, polycarbonate, aromatic **polyamide** or polyimide, thermoplastic **polyamide** , polyaryl ether ketone, polyacryl ether nitrile and aromatic polyhydroxy ether. The implant has a defined porosity gradient within the porous layer, the highest porosity being on the outer side. (7pp)

23/5/1 (Item 1 from file: 350)

0015948644 - Drawing available
WPI ACC NO: 2006-480311/200649
XRAM Acc No: C2006-151462
XRPX Acc No: N2006-390565

Orthodontic appliance **such as ligature, is not removable aligner appliance and comprises shape memory** polymer **chosen from castable,** thermoplastic **blend and polyurethane shape memory polymers, liquid crystalline polymers and polycyclooctene**

Patent Assignee: BURSTONE C J (BURS-I); LIU C (LIUC-I); MATHER P T (MATH-I); UNIV CONNECTICUT (UYCO-N)

Inventor: BURSTONE C J; LIU C; MATHER P T

Patent Family (2 patents, 111 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2006071520	A2	20060706	WO 2005US45073	A	20051212	200649	B
US 20060154195	A1	20060713	US 2004635199	P	20041210	200649	E
			US 2005301795	A	20051212		

Priority Applications (no., kind, date): US 2005301795 A 20051212; US 2004635199 P 20041210

Alerting Abstract WO A2

NOVELTY - **Orthodontic appliance** which is not removable aligner appliance, comprises shape memory polymer. The shape memory polymer is chosen from specific castable shape memory polymer, crosslinked polycyclooctene, and specific **thermoplastic** blend shape memory **polymer** , polyurethane shape memory polymer formed by reacting polyol, chain extender dihydroxyl-terminated polyhedral silsesquioxane and diisocyanate, and crosslinked liquid crystalline polymers.

DESCRIPTION - An **orthodontic appliance** or **component** comprises a shape memory polymer. The shape memory polymer is selected from a castable shape memory polymer, a crosslinked polycyclooctene, a **thermoplastic** blend shape memory **polymer** having Tg of higher than room temperature and whose rubber modulus and elasticity are derived from physical crosslinks, a polyurethane shape memory polymer formed by reacting a polyol, a chain extender dihydroxyl-terminated polyhedral silsesquioxane and diisocyanate, and crosslinked liquid crystalline polymers. The **thermoplastic** blend shape memory **polymer** comprises a blend of a crystalline polymer selected from poly(vinylidene fluoride), polyglycolides, polylactide and copolymers, poly(hydroxy butyrate), poly(ethylene glycol), polyethylene, polyethylene-co-vinyl acetate, poly(vinyl chloride), poly(vinylidene chloride) and copolymers of polyvinylidene chloride and **polyvinyl chloride** with an amorphous polymer selected from poly(vinyl acetate), poly

methyl acrylate, poly ethyl acrylate, atactic poly methyl methacrylate, isotactic poly methyl methacrylate and syndiotactic poly methyl methacrylate. The castable shape memory polymer is formed by reacting a monomer which forms a polymer of high glass transition temperature (Tg), a monomer which forms a polymer of low Tg and a multifunctional cross linking agent. The **orthodontic appliance** is not a removable aligner appliance. An INDEPENDENT CLAIM is included for method of making **orthodontic appliance** , which involves preparing above **orthodontic appliance** , by profile extrusion, injection molding, die cutting, casting, dip-coating, compression molding, blow-molding, rotational molding, rapid prototyping, and/or solid freeform fabrication.

USE - such as ligature, self-ligating bracket, force module and torque module,

ADVANTAGE - The **orthodontic appliance** has favorable stain resistance particularly with respect to food such as tea, coffee, wine, and grape juice, and has favorable moisture absorption and mechanical properties. The **orthodontic appliance** is transparent and colorless.

DESCRIPTION OF DRAWINGS - The figure shows the shape memory polymer permanent shape ligature.

10 arch wire
20 bracket
30 shape memory polymer ligature

23/5/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0015445765 - Drawing available
WPI ACC NO: 2005-795500/200581
XRAM Acc No: C2005-245190
Self-customizable dental appliance **e.g. mouthguard,** dental **splint or bleaching** appliance , **comprises channels and upstanding wall, where the appliance is formed of semi-crystalline** polyolefin **polymer or crystallizable polymer blend**
Patent Assignee: CUSTMBITE LLC (CUST-N); ELKIN M (ELKI-I); RABEONY M (RABE-I)
Inventor: ELKIN M; RABEONY M
Patent Family (2 patents, 109 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 20050256276	A1	20051117	US 2004571325	P	20040514	200581 B
			US 2004579539	P	20040614	
			US 2005128883	A	20050513	
WO 2005113675	A2	20051201	WO 2005US16650	A	20050513	200581 E

Priority Applications (no., kind, date): US 2004579539 P 20040614; US 2004571325 P 20040514; US 2005128883 A 20050513

Alerting Abstract US A1

NOVELTY - A self-customizable **dental appliance** comprises channels (26) and upstanding wall extending from the channels. The appliance is formed of semi-crystalline **polyolefin** polymer or a crystallizable polymer blend. The **dental appliance** is adapted to securely fit to teeth (28).

DESCRIPTION - An INDEPENDENT CLAIM is also included for forming a self-customizable **dental appliance** comprising:

1.molding the dental appliance comprising channels and an upstanding

wall;

2.placing the molded dental appliance in a liquid having a temperature of 60-100(deg)C, or heating the molded dental appliance in a microwave; and

3.placing the heated molded dental appliance in the mouth of a user for providing a custom fit of the dental appliance to teeth and gums of the user.

USE - Used as mouthguard, **dental** splint, temporomandibular joint bruxism **appliance** , bleaching appliance, upper impression tray including a full palatal, or lower impression tray (claimed).

ADVANTAGE - The self-customizable **dental appliance** of the present invention exhibits strong tensile strength, high impact properties, flexibility, and has little or no odor. It can be made clear or colored for identification, is non-hazardous, and can be easily molded by the user of the **dental appliance** . It gives the user ample time (e.g., 2-3 minutes) to properly fit the mouthguard at a workable temperature below 60(deg)C; provides shrink without any distortion once the mouthguard is comfortably in place; and possesses a good balance of hardness, soft feel and shock absorbing power.

DESCRIPTION OF DRAWINGS - The figure is a bottom plan view of self-customizable **dental appliance** , mouthguard, or splint placed on the upper teeth.

24 Lingual wall
25 Buccal wall
26 Channels
28 Teeth
W2 Width of teeth

23/5/3 (Item 3 from file: 350)

0015115855
WPI ACC NO: 2005-465346/200547
XRAM Acc No: C2005-141577

Dental composite material for, e.g. dental filling, dental inlay, onlay, facing or laminate veneer, comprises core-shell polymer compound comprising low-modulus interior comprising polysiloxane-free elastomer

Patent Assignee: COHEN G M (COHE-I); DU PONT DE NEMOURS & CO E I (DUPO); HUANG D D (HUAN-I)
Inventor: COHEN G M; HUANG D D

Patent Family (2 patents, 106 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20050124762	A1	20050609	US 2003526876	P	20031203	200547	B
			US 2004935943	A	20040908		
WO 2005055961	A1	20050623	WO 2004US40623	A	20041202	200547	E

Priority Applications (no., kind, date): US 2003526876 P 20031203; US 2004935943 A 20040908

Alerting Abstract US A1
NOVELTY - A dental composite material comprises at least 10-30 wt.%

core-shell polymer compound comprising a low-modulus interior having a **modulus** of **elasticity** of less than 2000 **psi** , where the low-modulus interior comprises a polysiloxane-free elastomer.

DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for producing a dental restoration article with reduced shrinkage, comprising mixing at least 10-30 wt.% core-shell polymer compound comprising low-modulus interior with a **modulus** of **elasticity** of less than 2000 **psi** , where the low-modulus interior comprises a polysiloxane-free elastomer with (meth)acrylic ester compound(s), polymerization initiator(s), and optionally inorganic filler(s); and forming and curing the dental restoration article.

USE - For dental filling dental inlay, onlay, facing or laminate veneer dental crown, bridge, or orthodontic splint material, dental adhesive, cement, sealant or adhesive for **orthodontic appliances** , artificial tooth, denture base or denture reline material or for treating dental tissue (claimed).

ADVANTAGE - The dental composite material combines reduced shrinkage with low viscosity, high polymerization rate, and good mechanical properties.

23/5/4 (Item 4 from file: 350)

0015055183 - Drawing available
WPI ACC NO: 2005-403207/200541
Related WPI Acc No: 2002-178568; 2002-461601; 2002-462552; 2002-712240; 2003-057524; 2003-067304; 2005-073835; 2005-150920
XRAM Acc No: C2005-124518
XRPX Acc No: N2005-327030

Manufacture of shell used in manufacture of dental restoration e.g. denture teeth, involves using digitized data to provide a shape for the shell, depositing polymeric layer, and repeating the depositing step to produce the shape

Patent Assignee: PANZERA C (PANZ-I); SCHULMAN M L (SCHU-I)
Inventor: PANZERA C; SCHULMAN M L

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 20050110177	A1	20050526	US 199892432	P	19980710	200541 B
			US 1999350604	A	19990709	
			US 2001946413	A	20010905	
			US 2004982656	A	20041104	

Priority Applications (no., kind, date): US 2001946413 A 20010905; US 1999350604 A 19990709; US 199892432 P 19980710; US 2004982656 A 20041104

Alerting Abstract US A1

NOVELTY - Manufacture of shell (10) used in the manufacture of a dental restoration involves using digitized data to provide a shape for the shell; depositing a layer of polymeric material; and repeating the depositing step a number of times to produce a number of layers of the polymeric material which are bonded to one another to form a shape of the shell based on the digitized data.

DESCRIPTION - INDEPENDENT CLAIMS are also included for:

1.a shell used for the manufacture of dental restoration;

2.a process for manufacturing a dental restoration comprising manufacturing a shell by rapid prototyping; filling the shell with refractory material to form a model; removing the model from the shell; and applying ceramic, metal or composite material on the model to form a dental restoration;

3.a dental restoration formed by the above process;

4.a process for manufacture a model used in manufacture of dental restoration, comprising depositing a layer of a investment material; repeating the depositing step a number of times to produce a number of layers of the investment material which are bonded to one another to form a shape of the model; and curing the shaped material to form the model; and

5.a model used in manufacture of dental restoration.

USE - The process is used for manufacture of shell used in the manufacture of a dental restoration (claimed) e.g. denture teeth, bridges, crowns,. bridges, space maintainers, tooth replacement **appliances** , **orthodontic** retainers, dentures, posts, jackets, inlays, onlays, facings, veneers, facets, implants, abutments, splints, partial crowns, teeth, cylinders, pins, and connectors.

ADVANTAGE - The shell and dental restoration can be mass produced.

DESCRIPTION OF DRAWINGS - The figure is a cross-sectional view of a shell formed by rapid prototyping.

10 Shell

23/5/5 (Item 5 from file: 350)

0014568005 - Drawing available
WPI ACC NO: 2004-749963/
XRAM Acc No: C2004-263516
XRPX Acc No: N2004-592533

Orthodontic wire **ligating member for use in** orthodontic **treatment comprises spaced engaging portions detachably engageable with bracket, and back portion integral with engaging portions and elastically deformable flexibly to engage bracket**

Patent Assignee: DENTSPLY SANKIN KK (DENX); SANKIN KOGYO KK (SNKM)
Inventor: MACHIDA K; MIYAJI H; TAMURA H

Patent Family (2 patents, 33 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
EP 1468657	A2	20041020	EP 20047034	A	20040324	200474 B
JP 2004329912	A	20041125	JP 2004110059	A	20040402	200477 E

Priority Applications (no., kind, date): JP 2003114398 A 20030418

Alerting Abstract EP A2

NOVELTY - An **orthodontic wire** ligating member (2) comprises >=2 spaced engaging portions detachably engageable with the bracket (1), and back portion (2a) integral with the engaging portions and elastically

deformable flexibly to engage the bracket to retain the archwire (4). It is engageable with an **orthodontic bracket** to retain an **archwire** inserted into a groove (6) in the bracket. It is elastically deformable member made of a synthetic resin.

USE - For use in orthodontic treatment.

ADVANTAGE - The invention allows an archwire to be easily ligated to a bracket and a tube with a simplified ligating structure. It allows tooth movement in a friction-free state or in a low-friction state so that the desired tooth movement is effected rapidly, thus the period of time for orthodontic treatment is shortened. It allows tooth movement to be effected with a small corrective force, thus minimizing pain inflicted on the patient. It has minimum unevenness and a smoothly curved external configuration to improve aesthetics. It is easy to clean and bits of food are unlikely to be left.

DESCRIPTION OF DRAWINGS - The figure is an external view showing an **orthodontic wire** ligating member applied to a twin-type bracket.

1 Bracket
2 **Orthodontic wire** ligating member
2a Back portion
2c Wire keeper
4 Archwire
6 Groove

23/5/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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0014555061 - Drawing available
WPI ACC NO: 2004-737019/
XRAM Acc No: C2004-259144
XRPX Acc No: N2004-583258

Orthodontic wire **ligating member for** orthodontic **treatment comprises spaced engaging portions detachably engageable with the bracket, and back portion that is elastically deformable flexibly to engage the bracket to retain the archwire**

Patent Assignee: MACHIDA K (MACH-I); MIYAJI H (MIYA-I); SANEIGEN FFI KK (SANE-N); TAMURA H (TAMU-I)
Inventor: MACHIDA K; MIYAJI H; NAGAYASU K; TAMURA H

Patent Family (2 patents, 2 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 20040209219	A1	20041021	US 2004819301	A	20040407	200472 B
JP 2004313122	A	20041111	JP 2003114389	A	20030418	200474 E

Priority Applications (no., kind, date): JP 2003114389 A 20030418

Alerting Abstract US A1

NOVELTY - An **orthodontic wire** ligating member (2) comprises spaced engaging portions detachably engageable with the bracket (8), and a back portion (2a) integral with the engaging portions and elastically deformable flexibly to engage the bracket to retain the archwire (4). The ligating member is an elastically deformable member made of a synthetic resin.

USE - The inventive **orthodontic wire** -ligating member is for use with an **orthodontic bracket** to retain an **archwire** inserted into a groove in the **bracket** . It is used for **orthodontic** treatment.

ADVANTAGE - The inventive **orthodontic wire** -ligating member allows an

archwire to be easily ligated to a bracket and a tube with a simplified ligating structure. It allows tooth movement in a friction-free state or in low-friction state, so that the desired tooth movement is effected rapidly and thus the period for orthodontic treatment is shortened. It allows tooth movement to be effected with small corrective force, thus minimizing the pain inflicted to the patient. It has an archwire retaining structure with minimum of unevenness and a smoothly curved external configuration to improve aesthetics. It is capable of being easily attached and detached to and from even existing conventional brackets. It is easy to clean, and bits of food are unlikely to be left on it. There is no end of cut wire as experienced with the conventional wire ligating device, thus the sense of incongruity and irritation in the mouth are minimized, and cleanliness is improved. The dirt on the ligating member is less inconspicuous and deterioration of the ligating member is less than in the case of the conventional O-rings and ligating modules made of synthetic resin elastomers.

DESCRIPTION OF DRAWINGS - The drawing shows an external view of the **orthodontic wire** ligating member as applied to a bracket.

2 **Orthodontic wire** ligating member
2a Back portion
2b Leg portions
2c Wire keeper
4 Archwire
8 Bracket

23/5/7 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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0013194417 - Drawing available
WPI ACC NO: 2003-278513/200327
XRAM Acc No: C2003-072843

Dental product composition as filling material, e.g. preformed crown, **includes resin system comprising crystalline component, filler system, and initiator system**

Patent Assignee: 3M INNOVATIVE PROPERTIES CO (MINN); ABUELYAMAN A S (ABUE-I); FANSLER D D (FANS-I); GADDAM B N (GADD-I); JONES T D (JONE-I); KARIM N (KARI-I); LEWANDOWSKI K M (LEWA-I); MITRA S B (MITR-I); NELSON J M (NELS-I); SALVIEJO-RIVAS M (SALV-I)

Inventor: ABUELLYAMAN A S; ABUELYAMAN A S; FANSLER D D; GADDAM B N; JONES T D; KARIM N; LEWANDOWSKI K M; MITRA S B; NELSON J M; SALVIEJO-RIVAS M

Patent Family (7 patents, 100 countries)

Patent			Application				
Number	Kind	Date	Number	Kind	Date	Update	
WO 2003015720	A1	20030227	WO 2002US26123	A	20020815	200327	B
US 20030114553	A1	20030619	US 2001312355	P	20010815	200341	E
			US 2002219398	A	20020815		
EP 1416902	A1	20040512	EP 2002768577	A	20020815	200431	E
			WO 2002US26123	A	20020815		
AU 2002331604	A1	20030303	AU 2002331604	A	20020815	200452	E
BR 200211819	A	20040727	BR 200211819	A	20020815	200452	E
			WO 2002US26123	A	20020815		
CN 1541084	A	20041027	CN 2002815839	A	20020815	200512	E
JP 2005509050	W	20050407	WO 2002US26123	A	20020815	200524	E
			JP 2003520681	A	20020815		

Priority Applications (no., kind, date): US 2002219398 A 20020815; US 2001312355 P 20010815

Alerting Abstract WO A1

NOVELTY - A dental product composition comprises a resin system comprising a crystalline component, a filler system (greater than 60 wt.%), and an initiator system. It is in a form of hardenable self-supporting structure having a first shape and malleability to be formed into a second shape at 15-38(deg)C, provided that if the filler system comprises fibers, the fibers are present at less than 20 wt.%.

DESCRIPTION - INDEPENDENT CLAIMS are included for:

1.a compound (I);

2.a dental product;

3.a dental impression tray;

4.a preformed dental crown;

5.a preformed dental impression tray;

6.a method for preparing a composition comprising combining a resin system comprising a crystalline component, a filler system, and an initiator system; and forming the mixture into a hardenable self-supporting structure;

7.a method of preparing a dental product; and

8.a method of preparing a dental tray.

http://imagesrv.dialog.com/imanager/getimage?ref=I1d233cf0542611da963b0000836 1346f&f=351&type=PNG

Q= polyester segments, polyamide segments, polyurethane segments, and/or polyether segments, preferably poly(caprolactone) segments.

USE - As a filling material (claimed), e.g. preformed crown, preformed inlay, preformed onlay, preformed bridge, preformed veneer, preformed **orthodontic appliance** , preformed maxillofacial prosthesis, preformed tooth facsimile, or a preformed tooth splint (claimed).

ADVANTAGE - The invention has an internal strength to be formed into a desired shape that can be maintained during transportation and storage, and with malleability to be customized into a second shape and hardened.

DESCRIPTION OF DRAWINGS - The figure shows a rheological response of dental wax.

G' Elastic modulus

G'' Viscous modulus

23/5/8 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0011131108
WPI ACC NO: 2002-067666/200210
XRAM Acc No: C2002-020368
Two-part polymerizable composition useful for dental applications includes a vinyl ether to reduce peak setting temperature and improve mechanical properties
Patent Assignee: 3M ESPE AG (MINN); DREIM 3M ESPE AG (DREI-N); HECHT R (HECH-I); LEHMANN T (LEHM-I)
Inventor: HECHT R; LEHMANN T
Patent Family (8 patents, 93 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
DE 10017188	A1	20011018	DE 10017188	A	20000407	200210	B
WO 2001076536	A1	20011018	WO 2001EP3834	A	20010404	200210	E
AU 200173913	A	20011023	AU 200173913	A	20010404	200213	E
EP 1267797	A1	20030102	EP 2001940285	A	20010404	200310	E
			WO 2001EP3834	A	20010404		
US 20030158288	A1	20030821	WO 2001EP3834	A	20010404	200356	E
			US 2003257011	A	20030212		
AU 2001273913	B2	20040624	AU 2001273913	A	20010404	200468	E
EP 1267797	B1	20050824	EP 2001940285	A	20010404	200556	E
			WO 2001EP3834	A	20010404		
DE 50107202	G	20050929	DE 50107202	A	20010404	200564	E
			EP 2001940285	A	20010404		
			WO 2001EP3834	A	20010404		

Priority Applications (no., kind, date): DE 10017188 A 20000407

Alerting Abstract DE A1

NOVELTY - Two-part polymerizable composition containing a barbituric acid derivative and/or malonyl sulfamide as initiator includes a vinyl ether in the monomer/accelerator component.

DESCRIPTION - Two-part polymerizable composition comprises:

1.a first component comprising:

1.0.1-20 wt.% of at least one vinyl ether;

2.10-89.9 wt.% of at least one other ethylenically unsaturated monomer;

3.0.001-5 wt.% of at least one accelerator; and

4.9.999-89.999 wt.% fillers, thixotropic additives, retardants and other additives; and

2.a second component comprising:

1.0.1-20 wt.% of at least one barbituric acid derivative and/or malonyl sulfamide capable of initiating radical polymerization;

2.0-89.9 wt.% fillers, thixotropic additives, retardants and other additives; and

3.10-80 wt.% plasticizer.

USE - The composition is useful in dental applications, especially as a

filling material, root reconstruction material, fixing cement or temporary crown and bridge material or for making inlays, onlays, surfacings and modeling materials.

ADVANTAGE - Inclusion of the vinyl ether reduces the peak setting temperature and improves the mechanical properties of the polymerized product, especially giving products with a bending **modulus** of **elasticity** above 1500 **MPa** .

23/5/9 (Item 9 from file: 350)

0006034214 - Drawing available
WPI ACC NO: 1992-270514/199233
XRAM Acc No: C1992-120595
XRPX Acc No: N1992-206779

Stain-resistant orthodontic device - comprising elastomeric material sufficiently free of hydrocarbon-based polyether and polyester segments to resist staining

Patent Assignee: MINNESOTA MINING & MFG CO (MINN)
Inventor: HAMMAR; HAMMAR J W; HAMMAR W J; NAVE M D

Patent Family (7 patents, 5 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 498558	A1	19920812	EP 1992300739	A	19920129	199233	B
CA 2060163	A	19920808	CA 2060163	A	19920128	199243	E
JP 5049652	A	19930302	JP 199220985	A	19920206	199314	E
US 5317074	A	19940531	US 1991652047	A	19910207	199421	E
US 5461133	A	19951024	US 1991652047	A	19910207	199548	E
			US 1994199471	A	19940222		
EP 498558	B1	19980107	EP 1992300739	A	19920129	199806	E
DE 69223821	E	19980212	DE 69223821	A	19920129	199812	E
			EP 1992300739	A	19920129		

Priority Applications (no., kind, date): US 1994199471 A 19940222; US 1991652047 A 19910207

Alerting Abstract EP A1

Elastomeric **orthodontic device** sufficiently free of hydrocarbon-based polyether and polyester segments to resist staining is prepd from a material (I) and having (per 2 mm thickness) a Hunter colour difference (when using a 2.5 cm illuminated opening) of: (a) less than 40 when compared with a Hunter white standard tile, and (b) less than 33 after immersion in mustard coln for 30 min (compared with (I) before the immersion).

Pref. (I) comprises a **thermoplastic** rubber block **copolymer** , a polyurethane a polyurea, a polyurethane/urea, a silicone material, an ethylene propylene dimer rubber, an ethylene propylene monomer rubber, or a fluoroelastomer (esp a fluorocarbon). Pref. (I) can be stretched to at least 300% elongation without breakage, and have **tensile strength** 2-30 **MPa** at 300% elongation. Pref. (I) have (as above) a Hunter colour difference of: (a) less than 30 esp less than 20 when compared with a Hunter white standard tile; and (b) less than 20 after immersion in the mustard soln. Pref. devices are ligatures, tooth separators, rotation wedges, or elongated modules having opposed, annular terminal end portions. (I) is esp. 'Kraton G2703X' (RTM) **thermoplastic** rubber **polymer** . In

staining experiments it was shown that 'Kraton G2703X' **thermoplastic** rubber **polymer** ligatures were not stained after immersion for 30 min at room temp in mustard soln, and only very slightly stained after immersion in coffee of tea at 45 deg C for 24 hr. Other commercial ligatures were badly stained.

ADVANTAGE - The devices resist staining by common foods and beverages, including mustard, tea and coffee, so that they remain aesthetically pleasing in appearance during use, and do darken or turn yellow. In addn, the **devices** have physical properties suitable for **orthodontic** use.

Equivalent Alerting Abstract US A

Elastomeric orthodontic force module is made of a material having Hunter colour different of (a) less than 40 w.r.t.. Hunter white standard tile and (b) less than 33 when immersed in mustard soln. for 30 mins. w.r.t. material before immersion, each per 2mm. thickness.

Material comprises polyurethane, polyurea, polyurethaneurea, fluoroelastomer, or their blends.

USE/ADVANTAGE - For repeated stretching to twice its original length and forcible returning there after removal of tensile stress. Free of hydrocarbon-based polyether segments and hydrogen-based polyester segments to provide resistance to staining.

Equivalent Alerting Abstract US A

Elastomeric orthodontic force module free of hydrocarbon-based polyether (and -polyester) segments comprises a material of Hunter colour difference (a) less than 40 w.r.t. white standard tile and (b) less than 33 after immersion in mustard soln. for 30 mins. per 2mm thickness w.r.t before immersion.

Material comprises silicone polymer, and is resistant to staining.

ADVANTAGE - Force module at room temp. can be respectively stretched to twice its original length and will forcibly return to its original length after removing tensile stress.

23/5/10 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0005317272 - Drawing available

WPI ACC NO: 1990-314648/

XRAM Acc No: C1990-136020

XRPX Acc No: N1990-241354

Orthodontic appliance **with enhanced functionality and appearance - using moulded polysulphone brackets and a** polyamide **coated steel arch**

Patent Assignee: SCAND BIOORTODONTIC (SCBI-N); SCANDINAVIAN BIOORTODONTIC AB (SCBI-N)

Inventor: HAKANSSON H; SJOEGREN D; SJOGREN D

Patent Family (9 patents, 15 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 393002	A	19901017	EP 1990850140	A	19900412	199042	B
SE 198901312	A	19901013	SE 19891312	A	19890412	199049	E
			SE 19891313	A	19890412		
			SE 19891314	A	19890412		
SE 198901313	A	19901013	SE 19891312	A	19890412	199049	E
			SE 19891313	A	19890412		
			SE 19891314	A	19890412		

SE 198901314	A	19901013	SE 19891312	A	19890412	199049	E
			SE 19891313	A	19890412		
			SE 19891314	A	19890412		
CA 2014483	A	19901012				199101	E
US 5032080	A	19910716	US 1989370598	A	19890623	199131	E
SE 466885	B	19920427	SE 19891312	A	19890412	199220	E
SE 466886	B	19920427	SE 19891313	A	19890412	199220	E
SE 466887	B	19920427	SE 19891314	A	19890412	199220	E

Priority Applications (no., kind, date): SE 19891314 A 19890412; SE 19891313 A 19890412; SE 19891312 A 19890412

Alerting Abstract EP A

An **orthodontic appliance** for use in **orthodontic** therapy which comprises (a) a **bracket** (3) detachably secured to a patient's tooth (7), the bracket being made from a **thermoplastic material** e.g. a polysulphone, that has a low coefficient of friction, a **tensile strength** of 50-90 **N / mm2** , a mod. of elasticity of 2001-2600 N/mm2 and a notched impact strength of 40-80 J/n (at 2.8-15 mm) and (b) an arch (2) which can be used with the brackets and comprises a wire or ribbon of cold-drawn steel which is coated with a **polyamide** of 0.02-0.2 mm thickness.

USE/ADVANTAGE - The injection moulded brackets are inconspicuous and pref. tooth coloured. Unlike prior art brackets made of metal these moulded brackets are unaffected by saliva and hence **orthodontic devices** can be made which are both fully functional and attractive. Each bracket is able to absorb and equalize minor displacement of the tooth without adversely affecting the **dental appliance** . @(1pp Dwg.No.1/7)

Equivalent Alerting Abstract US A

A **bracket** for use within a **dental appliance** can be secured to a patient's tooth. The bracket being formed from a material which is inert to water. The material having a low coeff. of friction, the material having deformation properties which enable the bracket to absorb and equalise minor displacement of the tooth without affecting the appliance and comprising a **thermoplastic material** resuming 70% of its original shape after repeated deformation, the material having a **tensile** strength of 50-90 **N / mm2** , a **modulus** of **elasticity** of 200-12600 **N / mm2** and a notch impact strength of 40-80 J/n at a thickness of 2.8-15.0 mm, in which the material contains diphenyl sulphone gps. of formula (I).

USE/ADVANTAGE - Used as **dental appliance** having low coeff. of friction. @(6pp)@

23/5/11 (Item 11 from file: 350)

0004805805
WPI ACC NO: 1989-178214/198924
XRAM Acc No: C1989-078726
XRPX Acc No: N1989-136111
Passive dental appliances **- with high strength fibre reinforced composite components having** thermoplastic **or thermosetting** polymer **matrices**
Patent Assignee: UNIV CONNECTICUT (UYCO-N); UNIV OF CONNECTICUT (UYCO-N)
Inventor: BURSTONE C J; GOLDBERG A J
Patent Family (11 patents, 15 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
WO 1989004640	A	19890601	WO 1988US4049	A	19881114	198924 B
AU 198927970	A	19890614				198935 E
ZA 198808310	A	19890726	ZA 19888310	A	19881107	198936 E
US 4894012	A	19900116	US 1987121178	A	19871116	199010 E
BR 198807801	A	19900807				199036 E
EP 389552	A	19901003	EP 1989900497	A	19881114	199040 E
JP 3503848	W	19910829	JP 1989500548	A	19881114	199141 E
CA 1304610	C	19920707	CA 582745	A	19881110	199233 E
EP 389552	B1	19950419	WO 1988US4049	A	19881114	199520 E
			EP 1989900497	A	19881114	
EP 389552	A4	19920513	JP 1989500555	A	19881116	199522 E
DE 3853635	G	19950524	DE 3853635	A	19881114	199526 E
			WO 1988US4049	A	19881114	
			EP 1989900497	A	19881114	

Priority Applications (no., kind, date): US 1987121178 A 19871116

Alerting Abstract WO A

In a passive **dental appliance** system for use as an **orthodontic** retainer, bridge, space maintainer, splint etc, the improvement is that a structural component is formed from a fibre-reinforced polymer composite having the following characteristics, (i) the embedded reinforcing fibres comprise at least 20 wt% of the composite and are fully wetted by the polymer matrix; and (ii) the composite is void-free and has a modulus of elasticity above 0.5 x 10 power 6, pref (1-60) x power 6 psi.

Also claimed is a two-step method for making the appliances, involving first forming a composite (pref by moulding, extrusion or pultrustion) and then forming the composite to give a structural component of the appliance.

ADVANTAGE - The composites have a better combination of properties than previously used dental polymers, i.e. not only greater stiffness and strength but also generally higher mech properties. The polymer matrix can be of a **thermoplastic** or thermosetting **material** (claimed). Processing by the two-step process is more aesthetic and easier than for metal alloys, thereby allowing superior and unique designs.

Equivalent Alerting Abstract US A

A structural **component** of a passive **dental appliance** system, e.g. a bridge, tooth replacement appliance, is a prefabricate of (A) a polymer matrix contg. embedded (B) at least 30, esp. 40-60 wt.% reinforcing fibres which are fully wetted by the polymer matrix. The prefabricate is virtually free from voids and has an elasticity modulus above 3, pref. above 6 x 10 power6 kg/cm2.

The reinforcing fibre pref. has a dia. 0.3-25, esp. 0.3-20 micrometre and is a continuous filament or a short fibre of inorganic, natural or synthetic natural material compatible with the matrix. The polymer is e.g. **polyamide** , polyester glycol, polyacrylate, styrene/acrylonitrile copolymer, vinyl ester.

ADVANTAGE - The component has greater stiffness, strength and general mechanical properties than known dental polymers; it is more aesthetic, easier to process and adjust than dental metal alloys. (8pp)

23/5/12 (Item 12 from file: 350)

0004102705
WPI ACC NO: 1987-207664/198730
XRAM Acc No: C1987-087000
XRPX Acc No: N1987-155422
Orthodontic appliance **applying corrective forces to teeth - comprises polymeric matrix of e.g. epoxy! resin reinforced with fibres of e.g. glass**
Patent Assignee: GOLDBERG A J (GOLD-I); UNIV CONNECTICUT (UYCO-N)
Inventor: BURSTONE C J; GOLDBERG A J
Patent Family (8 patents, 11 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
EP 230394	A	19870729	EP 1987630005	A	19870113	198730 B
AU 198767534	A	19870716				198735 E
ZA 198700224	A	19870917	ZA 1987224	A	19870113	198747 E
BR 198700111	A	19871201				198802 E
US 4717341	A	19880105	US 1986817925	A	19860113	198803 E
CA 1275834	C	19901106				199050 E
EP 230394	B	19920115	EP 1987630005	A	19870113	199203 E
DE 3775936	G	19920227				199210 E

Priority Applications (no., kind, date): US 1986817925 A 19860113

Alerting Abstract EP A

An **orthodontic appliance** system for applying corrective forces to the teeth of a patient has a force delivery component formed from a fibre reinforced composite material having a **modulus** of **elasticity** of below 30X10 power 6 **psi** , esp. 0.3-30 **psi** and a preselected ratio of **yield strength** to modulus of elasticity within a range from a level comparable to that of 18-8 stainless steel up to at least 300% that of such stainless steel.

The appliance is made e.g. from polymeric matrix contg. at least 5 wt.%, pref. at least 10 wt.% embedded fibres which may be continuous filaments or short fibres of inorganic, natural or synthetic organic materials. The **polymer** matrix is of **thermoplastic** or thermosetting **material** such as **polyamides** , polyesters, polyester glycols, polycarbonates, **polyolefins** , polyarylates, polyurethanes, polyacetals, polyarylsulphides, polysulphones or epoxy resin.

Pref. materials contain 5-80% short fibre and exhibit a modulus of elasticity of up to ca. 5x10 power 6 psi, or they contain continuous filaments and exhibit a modulus of elasticity of 1.5 x 10 power 6 to 25 x 10 power 6 psi. Pref. the fibres are dispersed throughout the matrix and have a predominant orientation sufficient to effectively resist the max. torque applied by the force delivery component.

ADVANTAGE - More constant force levels can be applied with time and a continuous range of stiffness is achieved. The material has a higher max. elastic deflection than the stainless steel and an ability to provide complex orthodontic configurations so as to enhance and ease the accuracy of force delivery.

Equivalent Alerting Abstract US A

An **orthodontic appliance** system for applying corrective forces to the teeth of a patient has a force delivery component formed from a fibre reinforced composite material having a **modulus** of **elasticity** of below 30X10 power 6 **psi** , esp. 0.3-30 **psi** and a preselected ratio of **yield strength** to modulus of elasticity within a range from a level comparable to that of 18-8 stainless steel up to at least 300% that of such stainless

steel. The appliance is made e.g. from polymeric matrix contg. at least 5 wt.%, pref. at least 10 wt% embedded fibres which may be continuous filaments or short fibres of inorganic, natural or synthetic organic materials. The **polymer** matrix is of **thermoplastic** or thermosetting **material** such as **polyamides** , polyesters, polyester glycols, polycarbonates, **polyolefins** , polyarylates, polyurethanes, polyacetals, polyarylsulphides, polysulphones or epoxy resin. Pref. materials contain 5-80% short fibre and exhibit a modulus of elasticity of up to ca. 5x10 power 6 psi, or they contain continuous filaments and exhibit a modulus of elasticity of 1.5 x 10 power 6 to 25x10 power 6 psi. Pref. the fibres are dispersed throughout the matrix and have a predominant orientation sufficient to effectively resist the max. torque applied by the force delivery component.

USE/ADVANTAGE - More constant force levels can be applied with time and a continuous range of stiffness is achieved. The material has a higher max. elastic deflection than the stainless steel and an ability to provide complex othodonic configurations so as to enhance and ease the accuracy of force delivery. (12pp)r

25/5/1 (Item 1 from file: 347)

06274561 **Image available**

ARTIFICIAL TOOTH MATERIAL, METHOD AND DEVICE TO DETERMINE SHAPE OF SORING AREA OF TOOTH WHERE ARTIFICIAL TOOTH IS INSTALLED AND MANUFACTURING METHOD AND MACHINE FOR ARTIFICIAL TOOTH AND METHOD FOR USING THE MACHINE

PUB. NO.: 11-216150 [JP 11216150 A]
PUBLISHED: August 10, 1999 (19990810)
INVENTOR(s): GUIOT JEAN-BERNARD
TRABER TONY
EFRONI ERAN
APPLICANT(s): DCS FORSCH & ENTWICKL AG
APPL. NO.: 10-309798 [JP 98309798]
FILED: October 30, 1998 (19981030)
PRIORITY: 2530 [CH 972530], CH (Switzerland), October 31, 1997 (19971031)
INTL CLASS: **A61C-013/087** ; **A61C-013/08** ; **A61C-013/14** ; A61K-006/08

ABSTRACT

PROBLEM TO BE SOLVED: To prevent a materials that composes a blank of an artificial **tooth** from changing by processing and use or changing with time and to maintain its original shape and volume by forming the blank out of a plastic reinforced with glass fibers.

SOLUTION: The blank 10 is made from a plastic material 12 of partly aromatic **polyamide** that is reinforced by fragments of cast glass fiber 14. The plastic material 12 consists of the glass fiber 14 that are aligned or not aligned according to the demand for each artificial **tooth** by a special method for casting production. The blank 10 can gain **modulus** of **elasticity** in tension of 22 **GPa** and Brinell hardness of 280 Mpa. Its breaking load is about 1,150 N without being added by an addition. It is right as its specific gravity is about 1.7 g per cubic cm. Moreover, as it is a bad conductor for heat, clients' dissatisfaction caused by heat

conduction would not be occurred. Also, from the viewpoint of aesthetic, it has the semi-translucent color like **tooth** enamel and it can be transmitted by lights.

25/5/2 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0015272329
WPI ACC NO: 2005-622450/200564
XRAM Acc No: C2005-187101
XRPX Acc No: N2005-510967
Dental **release material composition for** dental **metal-type material is obtained by dissolving** polyolefin **copolymer having structural units derived from ethylene and alpha olefin, in organic solvent**
Patent Assignee: SAN MEDICAL KK (SANM-N)
Inventor: HOSOMI Y; ONO T
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
JP 2005224601	A	20050825	JP 2004380286	A	20041228	200564 B

Priority Applications (no., kind, date): JP 20045276 A 20040113

Alerting Abstract JP A
NOVELTY - A **dental** release material composition is obtained by dissolving **polyolefin** copolymer in an organic solvent. **Polyolefin** copolymer contains structural unit derived from ethylene and from 3-20C alpha-olefin.
USE - For **dental** resin-type material, **dental** metal-type material and **dental** inorganic-type material (all claimed) and for forming resin jacket crown.
ADVANTAGE - The **dental** release material composition is safe to use, easy to handle and has less allergic effect. The composition has excellent flexibility.

25/5/3 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0015035814 - Drawing available
WPI ACC NO: 2005-383806/200539
XRAM Acc No: C2005-118655
XRPX Acc No: N2005-311134
Incremental position adjustment appliance for maintaining or repositioning teeth **in oral cavity, includes polymeric shell having cavities and comprising polymeric mixture**
Patent Assignee: CHAKRAVARTI S (CHAK-I); TADROS S (TADR-I)
Inventor: CHAKRAVARTI S; TADROS S
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 20050100853	A1	20050512	US 2003705590	A	20031110	200539 B

Priority Applications (no., kind, date): US 2003705590 A 20031110

Alerting Abstract US A1

NOVELTY - An incremental position adjustment appliance comprises a polymeric shell having cavities and comprising a polymeric mixture.

DESCRIPTION - An INDEPENDENT CLAIM is also included for a method of manufacturing an incremental position adjustment appliance, comprising:

1. mixing thermoplastic polymers in a melt blending device to form a polymeric mixture;

2. forming the polymeric mixture into a sheet; and

3. thermoforming the sheet over a replica of a patient.

USE - The invention is used for maintaining or repositioning **teeth** in the oral cavity.

ADVANTAGE - The invention displays optical clarity, stain resistance, and transparency.

DESCRIPTION OF DRAWINGS - The figure shows a jaw and the incremental position adjustment appliance.

25/5/4 (Item 3 from file: 350)

0013382751
WPI ACC NO: 2003-472600/
XRAM Acc No: C2003-126700
XRPX Acc No: N2003-375929

Mouth **guard for protecting** tooth **and jaw bone, has resin layer having excellent shock absorption proof property and resin layer which does not have agglutination**

Patent Assignee: KURARAY CO LTD (KURS)
Inventor: FUJIEDA Y; INAI K; KANAYAMA Y; TAKADA K; WADA K

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
JP 2002355352	A	20021210	JP 2001166449	A	20010601	200345 B

Priority Applications (no., kind, date): JP 2001166449 A 20010601

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
JP 2002355352	A	JA	6	0	

Alerting Abstract JP A

NOVELTY - A **mouth** guard has two or more resin layers in which at least one of the resin layer has excellent shock absorption proof property and the other layers does not have agglutination property.

DESCRIPTION - An INDEPENDENT CLAIM is included for laminated sheet which comprises two or more resin layers.

USE - For protecting **tooth** and jaw bone.

ADVANTAGE - The **mouth** guard is hygienic and has excellent shock absorption property, low agglutination, favorable handeability, and tear

proof property. The **mouth** guard exhibits thin wear feeling and has reduced external pressure.

25/5/5 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0012990857
WPI ACC NO: 2003-068718/
XRAM Acc No: C2003-018056
Production of polymerizable dental **composition with nano-particles involves in-situ hydrolysis of hybrid monomer containing hydrolyzable siloxane groups and polymerizable organic groups in a comonomer component**
Patent Assignee: DENTSPLY DETREY GMBH (DENX); FACHER A (FACH-I); FREY H (FREY-I); KLEE J E (KLEE-I); MUH E (MUHE-I); MULHAUPT R (MULH-I); WALZ U (WALZ-I); WEBER C (WEBE-I)
Inventor: FACHER A; FREY H; KLEE J E; MUEH E; MUELHAUPT R; MUH E; MULHAUPT R; WALZ U; WEBER C
Patent Family (6 patents, 99 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
DE 10101537	A1	20020808	DE 10101537	A	20010115	200307	B
WO 2002064102	A1	20020822	WO 2002EP338	A	20020115	200307	E
EP 1351650	A1	20031015	EP 2002719692	A	20020115	200368	E
			WO 2002EP338	A	20020115		
AU 2002250829	A1	20020828	AU 2002250829	A	20020115	200427	E
JP 2004519471	W	20040702	JP 2002563899	A	20020115	200443	E
			WO 2002EP338	A	20020115		
US 20040131995	A1	20040708	US 2003617503	A	20030711	200445	E

Priority Applications (no., kind, date): WO 2002EP338 A 20020115; DE 10101537 A 20010115

Alerting Abstract DE A1
NOVELTY - Polymerizable **dental** compositions are produced by hydrolysing a mixture of (i) a hybrid monomer with hydrolyzable siloxane groups and polymerizable organic groups and (ii) a comonomer component to form polymerizable nano-particles with an Si-O-Si structure and peripheral polymerizable organic groups, dispersed in the comonomer.
DESCRIPTION - A method for the production of a polymerizable **dental** composition involves (a) making a fluid mixture of (i) 1-99 wt% of a hybrid monomer component containing hybrid monomer compound(s) with a hydrolyzable siloxane group and polymerizable organic group(s) and (ii) 99-1 wt% comonomer component and (b) adding at least the stoichiometrically required amount of water so as to hydrolyse the siloxane groups to form spherical, polymerizable nano-particles with an average particle size of 1-100 nm, dispersed in the monomer component and showing a structure with Si-O-Si groups and peripherally-exposed polymerizable organic groups.
An INDEPENDENT CLAIM is also included for **dental** compositions obtained by this method.
USE - For the production of polymerizable **dental** compositions.
ADVANTAGE - Enables the one-pot production of compositions containing nano-particles with a narrow particle size distribution, a well-defined structure with Si-O-Si links and peripheral polymerizable groups, dispersed in a stable and homogeneous manner (no agglomeration) in a monomer component. These nano-particles are formed in situ without complicated

time- and energy-consuming reaction stages and then copolymerized with the liquid monomer to form a homogeneous product.

25/5/6 (Item 5 from file: 350)

0012747008
WPI ACC NO: 2002-599920/200264
XRAM Acc No: C2002-169713
XRPX Acc No: N2002-475546

Production of dental prosthesis, e.g. crown or bridge, involves milling blank of pre-sintered material with specified green breaking strength and dense sintering

Patent Assignee: 3M ESPE AG (MINN); FRANK S (FRAN-I); HAUPTMANN H (HAUP-I); MOSCHELER S (MOSC-I); SCHNAGL R (SCHN-I); SUTTOR D (SUTT-I)
Inventor: FRANK S; HAUPTMANN H; HOESCHELER S; HOSCHELER S; MOSCHELER S; SCHNAGL R; SUTTOR D; HOSCHELET S

Patent Family (10 patents, 99 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2002064099	A1	20020822	WO 2002EP1594	A	20020214	200264	B
DE 10107451	A1	20020912	DE 10107451	A	20010214	200268	E
EP 1359882	A1	20031112	EP 2002719840	A	20020214	200377	E
			WO 2002EP1594	A	20020214		
DE 10107451	B4	20040415	DE 10107451	A	20010214	200426	E
AU 2002250946	A1	20020828	AU 2002250946	A	20020214	200427	E
US 20040119180	A1	20040624	WO 2002EP1594	A	20020214	200442	E
			US 2004468071	A	20040203		
JP 2004527280	W	20040909	JP 2002563896	A	20020214	200459	E
			WO 2002EP1594	A	20020214		
CN 1518438	A	20040804	CN 2002804818	A	20020214	200475	E
AU 2002250946	B2	20050512	AU 2002250946	A	20020214	200535	E
CN 1226029	C	20051109	CN 2002804818	A	20020214	200652	E

Priority Applications (no., kind, date): DE 10107451 A 20010214

Alerting Abstract WO A1

NOVELTY - Production of **dental** prosthesis involves (a) preparing a blank, (b) machining this by milling and (c) dense sintering at 1200-1650(deg)C, in which the blank is a pre-sintered material and has a green **breaking strength** of 31-50 **MPa** .

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1. Dental prostheses made in this way;

2. Pre-sintered blanks of zirconium oxide ceramic, which consist of 91-98/45 wt.% zirconium (Zr) oxide, 0-3.5 wt.% hafnium (Hf) oxide, 1.5-6.0 wt.% yttrium (Y) oxide, 0.05-0.50 wt.% aluminum (Al), gallium (Ga), germanium (Ge) and/or indium (In) oxide(s) and 0-1.9 wt.% colorant (calculated as oxide) and have a green **breaking strength** of 31-50 **MPa** .

USE - The blanks of pre-sintered material are used for making **dental** prostheses (claimed), preferably crowns and especially bridges with 3 or more members.

ADVANTAGE - **Dental** prostheses with a highly precise fit are obtained by machining blanks with the specified green breaking strength, whereas the usual ceramic **dental** blanks with higher strength cannot be used in this process.

25/5/7 (Item 6 from file: 350)

0011001604
WPI ACC NO: 2001-626831/200173
XRAM Acc No: C2001-186958
Dental **composition comprising aziridine polyether, softeners, fillers and other active agents**
Patent Assignee: 3M ESPE AG (MINN); ECKHARDT G (ECKH-I); ESPE DENTAL AG (ESPE-N); ROAS P (ROAS-I); WANEK E (WANE-I)
Inventor: ECKHARDT G; ROAS P; WANEK E
Patent Family (11 patents, 92 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
DE 10001747	A1	20010726	DE 10001747	A	20000117	200173	B
AU 200125160	A	20010731	AU 200125160	A	20010115	200173	E
WO 2001052792	A1	20010726	WO 2001EP395	A	20010115	200173	E
EP 1248588	A1	20021016	EP 2001900446	A	20010115	200276	E
			WO 2001EP395	A	20010115		
DE 10001747	C2	20030213	DE 10001747	A	20000117	200314	E
US 20030109596	A1	20030612	WO 2001EP395	A	20010115	200340	E
			US 2002181358	A	20020717		
JP 2003520216	W	20030702	JP 2001552842	A	20010115	200352	E
			WO 2001EP395	A	20010115		
AU 772056	B2	20040408	AU 200125160	A	20010115	200456	E
EP 1248588	B1	20050511	EP 2001900446	A	20010115	200536	E
			WO 2001EP395	A	20010115		
DE 50106198	G	20050616	DE 50106198	A	20010115	200540	E
			EP 2001900446	A	20010115		
			WO 2001EP395	A	20010115		
US 6919386	B2	20050719	WO 2001EP395	A	20010115	200547	E
			US 2002181358	A	20020717		

Priority Applications (no., kind, date): DE 10001747 A 20000117

Alerting Abstract DE A1
NOVELTY - A **dental** composition comprising aziridine polyether, softeners, fillers and other active agents
DESCRIPTION - **Dental** composition comprises:

1.30-56 wt.% aziridine polyether containing below 5 wt.% cyclic polyethers;

2.30-45 wt.% softeners comprising (B1) compounds of mol. wt. below 500, (B2) non-animal glycerin triacetyl esters of mol. wt. 500-2000 and (B3) compounds of mol. wt. above 2000;

3.10-15 wt.% fillers; and

4.4-10 wt.% other active agents.

The ratio of (A) to (C) is 1.2-2.1 and the ratio of (B1) to (B3) is 1:0.8-2.3.

INDEPENDENT CLAIMS are included for:

1.a container containing the compositions; and

2.a mixer containing the composition.

USE - For the production of **dental** compositions (claimed).

ADVANTAGE - The compositions are demolded easily.

25/5/8 (Item 7 from file: 350)

0009906690 - Drawing available

WPI ACC NO: 2000-205851/200018

XRAM Acc No: C2000-063568

XRPX Acc No: N2000-153136

Dental **floss or tape which can be stretched to a permanent deformation and reduced cross-sectional area before use, to fit different types of interdental spaces.**

Patent Assignee: ATHENA NORDIC AB (ATHE-N)

Inventor: HAGNE L; JOENSSON L

Patent Family (6 patents, 87 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2000009034	A1	20000224	WO 1999SE1376	A	19990816	200018	B
SE 199802746	A	20000218	SE 19982746	A	19980817	200021	E
AU 199956646	A	20000306	AU 199956646	A	19990816	200030	E
SE 512823	C2	20000522	SE 19982746	A	19980817	200032	E
EP 1107706	A1	20010620	EP 1999943577	A	19990816	200135	E
			WO 1999SE1376	A	19990816		
US 6340027	B1	20020122	WO 1999SE1376	A	19990816	200208	E
			US 2001763161	A	20010216		

Priority Applications (no., kind, date): SE 19982746 A 19980817

Alerting Abstract WO A1

NOVELTY - Monofilament **dental** floss/tape of polymeric material, which can be stretched to a permanent deformation before use, increasing its length and reducing its cross-sectional area.

USE - **Dental** floss/tape is used for cleaning interdental surfaces.

ADVANTAGE - The floss/tape is cheaper than conventional products. It cannot fray or shred, or become lodged in the **teeth** , and can easily be rinsed free from bacteria with hot or cold water.

DESCRIPTION OF DRAWINGS - The figure shows a **dental** floss/tape in stretched form:

4, 5 Gripping areas

6, 7 Stretched area

3 Mid section

25/5/9 (Item 8 from file: 350)

0008952968
WPI ACC NO: 1998-505415/199843
XRAM Acc No: C1998-152443
XRPX Acc No: N1998-393974
Dental **cast post for forming an accurate apical canal pattern - comprising a transfer head attached to an elongated apical shaft, which is encased in a viscous** thermoplastic polymer .
Patent Assignee: MERRITT K L (MERR-I)
Inventor: MERRITT K L
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 5803736	A	19980908	US 1994232987	A	19940425	199843 B

Priority Applications (no., kind, date): US 1994232987 A 19940425

Alerting Abstract US A
An apparatus for forming a removable pattern of an apical canal comprises: (a) an elongated apical shaft; (b) a transfer head axially attached to one end of the shaft; and (c) a thermoplastic encasing the shaft; such that all 3 components are suitable for forming a removable pattern of an apical canal. Also claimed is a process for forming a cast-post **dental** restoration pattern comprising: (i) inserting into the apical canal, a **dental** post blank comprising the above apparatus having a viscous thermoplastic; (ii) allowing the viscous thermoplastic to harden to form a removable, rigid impression of the apical canal that is rigidly attached to the shaft; and (iii) removing the blank and the impression of the apical canal.
USE - To create a post, to which a **dental** crown or bridge will be attached, that is accurately matched to the internal contours of the apical canal.
ADVANTAGE - The post conforms to the shape of the apical canal rapidly and accurately, and it provides a custom fit. It can be applied with minimal drilling of the **tooth** and the shape of the canal does not need to be altered to conform to the shape of the post. The need for chair-side core pattern fabrication is eliminated.

25/5/10 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0007895022
WPI ACC NO: 1996-152517/199616
Related WPI Acc No: 2000-389235
XRAM Acc No: C1996-047922
Infused ceramic network prodn. for making odontoform(s) and dental **restorations - by casting aq. ceramic suspension in mould, drying, firing and infusing monomer, metal alloy or low fusing temp. glass**
Patent Assignee: UNIV BOSTON (UYBO-N)
Inventor: GIORDANO R A
Patent Family (8 patents, 17 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
EP 701808	A2	19960320	EP 1995114658	A	19950918	199616 B
EP 701808	A3	19960612	EP 1995114658	A	19950918	199632 E
JP 9098990	A	19970415	JP 1995240127	A	19950919	199725 E

US 5843348	A	19981201	US 1994307455	A	19940919	199904	E
			US 1997854805	A	19970512		
EP 701808	B1	20021204	EP 1995114658	A	19950918	200303	E
DE 69529037	E	20030116	DE 69529037	A	19950918	200313	E
			EP 1995114658	A	19950918		
ES 2188630	T3	20030701	EP 1995114658	A	19950918	200347	E
JP 2004255201	A	20040916	JP 1995240127	A	19950919	200461	E
			JP 2004109957	A	20040402		

Priority Applications (no., kind, date): US 1997854805 A 19970512; EP 1995114658 A 19950918; US 1994307455 A 19940919

Alerting Abstract EP A2

Prodn. of a ceramic network material from a ceramic suspension that includes dispersed ceramic particles in a medium contg. water and a dispersant, is effected by: (a) casting the suspension in a mould; (b) drying the moulded suspension to draw water from the suspension: (c) firing the dried suspension to form a ceramic network; and (d) infusing (1) a monomer, (2) a metal alloy or (3) a low fusing temp. glass to at least a portion of the ceramic network.

4 further processes for the prodn. are also claimed.

USE - The process is used to produce an odontoform (claimed) e.g. for educational and examination use. It is also used for fabricating **dental** restorations such as inlays, onlays, crowns and bridges, and for **dental** and medical implants (e.g. for bone or joint replacement).

ADVANTAGE - The odontoforms replicate the physical and mechanical properties of natural **teeth** . The restorative material combines the beneficial qualities of polymers with those of ceramics while avoiding the disadvantages of polymers (e.g. rapid wear and loss restorative strength). The restorative material has improved wear resistance and flexibility over conventional composite resins and ceramics. Pull out of filler is resisted as the ceramic particles are intertwined with the filler. A restoration formed on a metal supporting structure may be used with only minor modifications.

25/5/11 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0007680772

WPI ACC NO: 1996-302094/199631

XRAM Acc No: C1996-095975

XRPX Acc No: N1996-254235

Shaped dental **tip - obtd. from a filled plastic base material esp. a mixt of** polyphenylene **sulphide and carbon fibres and/or fibrous potassium titanate, and the tip is actuated by ultrasonic vibrations**

Patent Assignee: HIMENO K (HIME-I); TAKARAZUKA KASEI KK (TAKA-N); TAKARAZUKA PLASTIC IND CO LTD (TAKA-N)

Inventor: HIMENO H; HIMENO K; IMANISHI T; KITA K

Patent Family (6 patents, 7 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 719526	A1	19960703	EP 1995120659	A	19951228	199631	B
JP 8229054	A	19960910	JP 1995330867	A	19951219	199646	E
US 5725370	A	19980310	US 1995581203	A	19951229	199817	E
EP 719526	B1	20011205	EP 1995120659	A	19951228	200203	E

DE 69524368	E	20020117	DE 69524368	A	19951228	200213	E
			EP 1995120659	A	19951228		
JP 3646748	B2	20050511	JP 1995330867	A	19951219	200532	E

Priority Applications (no., kind, date): EP 1995120659 A 19951228; JP 1994339787 A 19941229

Alerting Abstract EP A1

A **dental** tip consisting of (A) a proximal end portion connected to a drive source and (B) a distal end portion having a desired curved shape adapted to act on a region requiring **dental** treatment with (A) and (B) made of a composite material comprising a plastic base and an (in)organic filler is new. Also claimed are: (a) the prodn. of the composite material by mixing the plastic base and filler(s) in such proportions to obtain desired natural vibration frequencies; and (b) the above **dental** tip having a liquid passage along the axis of the proximal end portion with an opening between the distal and proximal end portions to allow jetting of a liquid and a cross groove close to this opening in the outer wall and extending at virtually right angles to the axis of the liquid passage.

USE - To remove **dental** calculus and deposits (plaque) from the surface of **teeth** , prostheses, implants and the like and from root surfaces.

ADVANTAGE - The deposits are readily removed without damage to the underlying **dental** material. The tip can be readily and cheaply produced and is disposable unlike expensive metal tips. Irrigating water or a chemical agent (disinfectant) can be effectively supplied to the distal end portion during treatment. Gingiva and other soft tissues are not damaged.

25/5/12 (Item 11 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0007128976

WPI ACC NO: 1995-161016/

Related WPI Acc No: 1996-067868

XRAM Acc No: C1995-074606

Prepn. of ultrahigh modulus line prods. useful as dental **floss, etc. - by swelling melt-crystallised polyethylene tape to pseudo gel, then drying and stretching the prod. for continuous and coherent properties**

Patent Assignee: POLTECO INC (POLT-N)

Inventor: SHUKLA P; ZACHARIADES A E

Patent Family (7 patents, 18 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 5407623	A	19950418	US 1994177905	A	19940106	199521	B
EP 662388	A2	19950712	EP 1994120172	A	19941220	199532	E
CA 2138588	A	19950707	CA 2138588	A	19941220	199542	E
JP 8041240	A	19960213	JP 1995690	A	19950106	199616	E
EP 662388	A3	19960501	EP 1994120172	A	19941220	199626	E
EP 662388	B1	20020731	EP 1994120172	A	19941220	200257	E
DE 69431100	E	20020905	DE 69431100	A	19941220	200266	E
			EP 1994120172	A	19941220		

Priority Applications (no., kind, date): US 1994177905 A 19940106

Alerting Abstract US A

Thermoplastic tape, ribbon or line material is prepd. as follows: (a) a melt-crystallised precursor polyethylene tape (I) of mol. wt. above 300,000 is immersed in a liq. bath at ca. 130 (deg)C until it has swelled into a

pseudo-gel state; (b) the swollen tape is compressed lightly then treated with a solvent to remove all residual bath liq.; (c) the tape is heated to remove all residual solvent and provide a dried porous prod. with higher porosity than the original (I); (d) the prod. is compressed at 100,300,000 psi (depending on the thickness), and (e) the tape is stretched at 80-130 (deg)C to afford a drawn prod. with increased mechanical props. including a modulus 0.5-100 **GPa** , and **tensile strength** 0.1-2 **GPa** .

USE - The tapes are esp. useful as self-lubricating, highly effective **dental** flow (making much easier without shredding into filaments; variable floss widths and thicknesses, which may be treated with flavours, and medicinals such as peroxide), fishing line and other line prods. (sail cloth, ropes, threads, bondable tapes, porous membranes, structural and reinforcing material, in catheters and balloon materials etc.). The prods. may also be used in composite materials with glass, C mica, aromatic **polyamide** fibres, steel, silicon, BN, and other inorganic and ceramic fibres.

ADVANTAGE - The process affords high mol. wt. polyethylene tapes with continuous and coherent props. having high modulus and tensile strength props..

25/5/13 (Item 12 from file: 350)

0006647746 - Drawing available
WPI ACC NO: 1994-024970/
XRAM Acc No: C1994-011565
XRPX Acc No: N1994-019460

Bite plate to prevent teeth grinding and clenching - has curved channel fitting upper teeth , lower softening temp. layer in channel and short rear wall to fit wide size range

Patent Assignee: HAYS INC M B (HAYS-N)
Inventor: HAYS M B

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 5277203	A	19940111	US 1992937126	A	19920831	199403 B

Priority Applications (no., kind, date): US 1992937126 A 19920831

Alerting Abstract US A

Plate has a curved body (12) corresp. to upper **dental** arch shape and with a rear wall (22) much shorter than a front wall (18) and a horziontal bottom wall as long as or longer than the front wall to form a channel to receive upper **teeth** . A 2nd material (14) with lower softening temp. than the body material is located in the channel.

The body is pref. of resilient semi-rigid thermoplastics, partic. polycarbonate with s.g. 1.2, **yield strength** 9000 **lb / in2** and softening temp. of 310 deg. F. The 2nd **material** is pref. **thermoplastic** with softening temp. of 125-175 deg. F, partic. ethylene-vinyl acetate copolymer with softening temp. of 150 deg. F.

USE/ADVANTAGE - Used to prevent grinding of the **teeth** during sleep, or **teeth** clinching e.g. during cervical traction. Plate can accommodate a wide range of arch shapes and sizes, and can be custom fitted and snugly held in position without requiring a moulding process or **dental** laboratory facilities.

25/5/14 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0004928190
WPI ACC NO: 1989-317767/
XRAM Acc No: C1989-140710
XRPX Acc No: N1989-241850
Dental floss made from ultra-high mol. wt. polyolefin - **has excellent tensile strength and feel when used**
Patent Assignee: MITSUI PETROCHEM IND CO LTD (MITC); MITSUI PETROCHEMICAL IND LTD (MITC)
Inventor: HONDA N; HONDA S; YAGI K
Patent Family (8 patents, 16 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 339935	A	19891102	EP 1989304109	A	19890425	198944	B
JP 1274754	A	19891102	JP 1988103180	A	19880426	198950	E
			JP 1988103181	A	19880426		
JP 1274755	A	19891102	JP 1988103181	A	19880426	198950	E
US 5113880	A	19920519	US 1989343419	A	19890426	199223	E
			US 1990553346	A	19900717		
CA 1319545	C	19930629	CA 597668	A	19890425	199330	E
KR 199203126	B1	19920420	KR 19895495	A	19890426	199346	E
EP 339935	B1	19940105	EP 1989304109	A	19890425	199402	E
DE 68911984	E	19940217	DE 68911984	A	19890425	199408	E
			EP 1989304109	A	19890425		

Priority Applications (no., kind, date): JP 1988103181 A 19880426; JP 1988103180 A 19880426

Alerting Abstract EP A
Dental floss is made from drawn multifilament of ultra-high mol. wt. **polyolefin** having an intrinsic viscosity of at least 5 dl per gram, the filaments pref. having been drawn at a draw ratio of 5-80.
The **polyolefin** is pref. ultra-high mol. wt. polyethylene or an ethylene/alpha-olefin copolymer contg. at least one alpha-olefin having at least 3 carbon atoms in an amount of 0.1-20 on an average per 1000 carbon atoms, the alpha-olefin being propylene, butene-1, 4-methylpentene-1, hexene-1, octene-1, or decene-1.
USE/ADVANTAGE - The **dental** floss has excellent tensile strength, impact strength, creep resistance, water resistance, and use feeling. It will not break when pulled between the **teeth** .

Equivalent Alerting Abstract US A
Dental floss comprises a drawn multifilament of ultrahigh molecular wt. **polyolefin** of intrinsic viscosity 5 dl per g or more. Multifilament is drawn at draw ratio of 5-80. **Polyolefin** comprises polyethylene or ethylene/1-butene copolymer, ethylene/1-octene copolymer, ethylene/propylene copolymer.
ADVANTAGE - Can also comprise an interdental cleaning tool, such that the floss is stretched taut between protruding parts of the tool spaced from each other by a predetermined distance.

26/5/10 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0014478663 - Drawing available
WPI ACC NO: 2004-013042/200402
XRAM Acc No: C2004-004210
Chain lengthened N-alkylaziridine prepolymers are new
Patent Assignee: 3M ESPE AG (MINN); ECKHARDT G (ECKH-I); LECHNER G (LECH-I); WANEK E (WANE-I)
Inventor: ECKHARDT G; LECHNER G; WANEK E
Patent Family (8 patents, 98 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
DE 10126476	A1	20021219	DE 10126476	A	20010531	200402	B
WO 2002102877	A1	20021227	WO 2002EP5916	A	20020529	200402	E
EP 1390424	A1	20040225	EP 2002762278	A	20020529	200415	E
			WO 2002EP5916	A	20020529		
AU 2002328282	A1	20030102	AU 2002328282	A	20020529	200452	E
US 20040149164	A1	20040805	WO 2002EP5916	A	20020529	200452	E
			US 2003478807	A	20031126		
JP 2004530756	W	20041007	WO 2002EP5916	A	20020529	200466	E
			JP 2003506346	A	20020529		
EP 1390424	B1	20051026	EP 2002762278	A	20020529	200571	E
			WO 2002EP5916	A	20020529		
DE 50204688	G	20051201	DE 50204688	A	20020529	200580	E
			EP 2002762278	A	20020529		
			WO 2002EP5916	A	20020529		

Priority Applications (no., kind, date): DE 10126476 A 20010531

Alerting Abstract DE A1
NOVELTY - A chain lengthened N-alkylaziridine prepolymer of specified formula is new.
DESCRIPTION - Chain lengthened N-alkylaziridine prepolymers of formula (I) are new.

http://imagesrv.dialog.com/imanager/getimage?ref=I6ec2b53056e311daab290000836
1346f&f=351&type=PNG

http://imagesrv.dialog.com/imanager/getimage?ref=I6ed097e056e311daab290000836
1346f&f=351&type=PNG
R1= H or 1-12C alkyl;

X= divalent optionally unsaturated, linear, branched, cyclic or polycyclic hydrocarbon, optionally comprising 0-5 heteroatoms selected from O, NR1, S, and including in total 1-50C atoms, where this hydrocarbon residue is a group selected from -NR1-(C=O)-O-, -NR1-(C=O)-NR1, -(C=O)-O-, -(C=O)-S- which is covalently bonded to the polymer residue Z;

Z= a divalent prepolymer residue of number average molecular weight 5000-25000 g/mol, selected from polyester, polycarbonate, polyolefin , polysiloxane, and polyether;

E= -X'-A-X-';

A= a double radical, optionally unsaturated, linear, branched, or cyclic or polycyclic, optionally aromatic containing hydrocarbon, optionally containing 0-15 heteroatoms selected from O, NR1, S, and including in total 0-50 atoms, with the proviso that the number of hetero atoms must be at least 1 when the number of C atoms = zero;

X'= a double radical optionally unsaturated, linear, branched, or cyclic or polycyclic, optionally aromatic containing group, optionally containing 1-70 skeleton atoms from the group C, N, Si, O, S, and this residue includes a grouping selected from -NR1-(C=O)-O-, -NR1-(C=O)-NR1-, -(C=O)-O-, -(C=O)-S-, which is covalently bonded to the polymer residue Z; and

n= 1-50.

INDEPENDENT CLAIMS are also included for:

1.4 preparations of (I);

2.a mixture of the N-alkylaziridine prepolymer (I) with the non-chain-lengthened N-alkylaziridine prepolymer (II); and

3.a curable composition comprising (wt.%):

1.the chain lengthened N-alkylaziridine prepolymer (I), optionally with the non-chain-lengthened N-alkylaziridine prepolymer (II) (20-84.9);

2.compounds which produce soft spots in hardened dental compositions (5-40);

3.filler (10-40);

4.initiator (0.1-10); and

5.other additives (0-10).

USE - Hardenable compositions containing (I) are useful **as** dental

compositions (claimed).
ADVANTAGE - Compositions based on (I) on hardening after a processing time of 90-180 seconds have **a tensile** strength higher than 1. **9** Mpa, a Shore hardness-A of 40-60, and a high breaking elongation value.

26/5/13 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0013508178
WPI ACC NO: 2003-600961/
XRAM Acc No: C2003-163346
XRPX Acc No: N2003-478850
Resin composition for forming sheet for mouth **guard, contains specific amounts of thermoplastic elastomer and** polyolefin **group resin**
Patent Assignee: KURARAY CO LTD (KURS)
Inventor: FUJIEDA Y; INAI K; KANAYAMA Y; TAKADA K; WADA K
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
JP 2002363377	A	20021218	JP 2001166450	A	20010601	200357 B

Priority Applications (no., kind, date): JP 2001166450 A 20010601

Alerting Abstract JP A
NOVELTY - A resin composition contains 5-95 weight% (wt.%) of thermoplastic elastomer and 95-5 wt.% of **polyolefin** group resin.
DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

1.a sheet for mouth guard comprising the resin composition; and

2. mouth guard comprising the resin composition.

USE - For a sheet for a **mouth** guard (claimed) for protecting **tooth** and jaw bone.
ADVANTAGE - The resin composition has excellent shock absorption, handleability, cleaning property, durability and tear proof property, and low agglutination.

26/5/15 (Item 15 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0013230885
WPI ACC NO: 2003-315846/200331
XRAM Acc No: C2003-083104
XRPX Acc No: N2003-251534
Mouth **guard composition for preventing** teeth **and their surround tissues from trauma, comprises preset amount of styrene block** copolymer **, specific** thermoplastic **resin and specific wax**
Patent Assignee: GC CORP (GCDE); GC KK (GCDE)
Inventor: KAMOHARA H; KANBARA T; TAKESHITA T
Patent Family (8 patents, 29 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update

EP 1275421	A1	20030115	EP 200214050	A	20020628	200331	B
AU 200250705	A	20030116	AU 200250705	A	20020628	200331	E
JP 2003019240	A	20030121	JP 2001210409	A	20010711	200331	E
US 20030088011	A1	20030508	US 2002189499	A	20020708	200337	E
EP 1275421	B1	20040331	EP 200214050	A	20020628	200426	E
DE 60200318	E	20040506	DE 60200318	A	20020628	200434	E
			EP 200214050	A	20020628		
AU 778681	B2	20041216	AU 200250705	A	20020628	200508	E
US 6987140	B2	20060117	US 2002189499	A	20020708	200606	E

Priority Applications (no., kind, date): EP 200214050 A 20020628; JP 2001210409 A 20010711

Alerting Abstract EP A1

NOVELTY - A **mouth** guard composition comprises (in wt.%):

(a) styrene block copolymer (39-98);

(b) thermoplastic resin(s) (1-60); and

(c) at least one wax (1-40).

The thermoplastic resin is chosen from alicyclic saturated hydrocarbon-based resin, terpene resin and aliphatic petroleum resin. The wax is chosen from mineral wax, synthetic wax, vegetable-based wax and animal-based wax.

USE - For preventing **teeth** and their surrounding tissue from a trauma occurred mainly in sports such as rugby football and American football as well as soccer and karate.

ADVANTAGE - The **mouth** guard composition hardly generates plastic deformation when compared to conventional **mouth** guard compositions. The composition has high fluidity during formation after heating and softening, and superior fitness even after repeated use. The **mouth** guard is free from stickiness and does not cause an offensive smell.

26/5/17 (Item 17 from file: 350)

DIALOG(R)File 350:Derwent WPIX

0012914079 - Drawing available

WPI ACC NO: 2002-489640/

XRAM Acc No: C2002-138930

New cyclosiloxane and acyclic siloxane monomers with polymerizable substituent containing (meth)acrylate group are used for producing curable compositions, especially dental **compositions, with specified opacity**

Patent Assignee: 3M ESPE AG (MINN); BISSINGER P (BISS-I); ECKHARDT G (ECKH-I); WEINMANN W (WEIN-I)

Inventor: BISSINGER P; ECKHARDT G; WEINMANN W

Patent Family (8 patents, 92 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2001092271	A1	20011206	WO 2001EP6100	A	20010529	200252	B
AU 200174078	A	20011211	AU 200174078	A	20010529	200252	E
DE 10026432	A1	20020214	DE 10026432	A	20000529	200252	E
EP 1284979	A1	20030226	EP 2001940539	A	20010529	200319	E
			WO 2001EP6100	A	20010529		
US 20030166816	A1	20030904	WO 2001EP6100	A	20010529	200359	E
			US 2002296491	A	20021125		
EP 1284979	B1	20041229	EP 2001940539	A	20010529	200502	E
			WO 2001EP6100	A	20010529		

DE 50104973	G	20050203	DE 50104973	A	20010529	200510	E
			EP 2001940539	A	20010529		
			WO 2001EP6100	A	20010529		
US 6852795	B2	20050208	WO 2001EP6100	A	20010529	200511	E
			US 2002296491	A	20021125		

Priority Applications (no., kind, date): DE 10026432 A 20000529

Alerting Abstract WO A1

NOVELTY - New cyclosiloxane monomers (I) with a 6-26-membered siloxane ring and acyclic siloxane monomers (II), both with polymerizable substituent(s) containing (meth)acrylate group(s), are claimed.

DESCRIPTION - New cyclosiloxane monomers (I) and acyclic siloxane monomers (II.1) and (II.2), both with polymerizable substituent(s) containing (meth)acrylate group(s), are of the following formulae:

http://imagesrv.dialog.com/imanager/getimage?ref=I34a68fa053e811da963b00008361346f&f=351&type=PNG

n= 0-10;

A= hydrogen (H) or (modified) organyl;

D= E or a (modified) hydrocarbon linking 2-10 similar cyclosiloxane groups;

E= a polymerizable group with 1-3L groups at least once in an average molecule, otherwise A and optionally X-T-L;

X= 1-10C alk(en)ylene; a di- or polyvalent group;

L= (meth)acrylate;

a= 2 or 3;

x= at most 2 + y + 2z;

y, z= 0-8.

The full definitions are given in the DEFINITIONS (Full Definitions) Field.

INDEPENDENT CLAIMS are also included for:

1.Compositions containing ^< 10 wt.% (I), and (II.1) and (II.2); and

2.Containers containing monomer(s) (I) or (II.1) and (II.2).

USE - The compositions are used for producing curable compositions, especially **dental** compositions; monomers (I) and (II) or the compositions are used for producing **dental** compositions with an opacity suitable for ensuring the visual impression of natural **tooth** substance; and (I) with specified side chain(s) containing (meth)acrylate group(s) are used for producing curable compositions with 80-90% opacity (all claimed). They are useful in **dentistry** for fillings and building up stumps and as **dental**

cements, lacquers and facing materials.
ADVANTAGE - **Dental** restoration materials containing short-chain (meth)acrylate monomers can release of unpolymerized residual monomer, causing a significant health hazard. Existing low-shrinkage compositions with good physical properties do not give esthetic properties, especially opacity, ensuring the visual impression of natural **tooth** substance. The present high molecular monomers can be formulated to give cured compositions with the required low opacity, without using low-functional monomers based on pure (meth)acrylate, avoiding the risk of residual monomer release. The compositions have low polymerization shrinkage and very high mechanical strength. Despite the large number of (meth)acrylate groups per molecule, the monomers are stable in storage.

26/5/26 (Item 26 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0010395757 - Drawing available
WPI ACC NO: 2000-477005/200042
XRAM Acc No: C2000-143496
New cyclic sol-gel condensable siloxanes and derived polysiloxanes, resins and copolycondensates for use in dental **materials, giving high compressive and flexural strength**
Patent Assignee: 3M ESPE AG (MINN); ESPE DENTAL AG (ESPE-N)
Inventor: BISSINGER P; ECKHARDT G; GASSER O; GUGGENBERGER R; SOGLOWEK W
Patent Family (9 patents, 23 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
DE 19860361	A1	20000629	DE 19860361	A	19981224	200042	B
WO 2000042092	A1	20000720	WO 1999EP10318	A	19991222	200042	E
AU 200030428	A	20000801	AU 200030428	A	19991222	200054	E
EP 1141094	A1	20011010	EP 1999964662	A	19991222	200167	E
			WO 1999EP10318	A	19991222		
EP 1141094	B1	20020724	EP 1999964662	A	19991222	200256	E
			WO 1999EP10318	A	19991222		
DE 59902155	G	20020829	DE 59902155	A	19991222	200264	E
			EP 1999964662	A	19991222		
			WO 1999EP10318	A	19991222		
AU 753359	B	20021017	AU 200030428	A	19991222	200280	E
ES 2180341	T3	20030201	EP 1999964662	A	19991222	200322	E
US 6624236	B1	20030923	WO 1999EP10318	A	19991222	200364	E
			US 2001868450	A	20010919		

Priority Applications (no., kind, date): DE 19860361 A 19981224

Alerting Abstract DE A1
NOVELTY - Cyclic sol-gel condensable siloxanes (I) are new. Also new are polysiloxanes (A), resins (B) and copolycondensates (C) derived from (I).
DESCRIPTION - Cyclic sol-gel condensable siloxanes of formula (I) are new.

http://imagesrv.dialog.com/imanager/getimage?ref=I044acad0f37311da8ea40000836
1346f&f=351&type=PNG
R1, R2= 1-10C alkyl, 2-10C alkenyl, 1-10C
fluoroalkyl, 3-12C cycloalkyl or
6-18C aryl;

R3= H or -R5-Z;

R4= -R6-(A-R6)cSiXa(R7)b;

R5, R6= 1-10C alkylene, 2-10C alkenylene, 3-12C cycloalkylene, 3-12C cycloalkenylene or 6-18C alkarylene (optionally containing 1-3 of O, N and S as heteroatom(s));

R7= 1-10C alkyl, 2-10C alkenyl, 6-18C aryl, 6-24C alkaryl or 6-24C aralkyl;

Z= linear, branched or cyclic organic group with at least one C=C double bond or epoxide function, containing 4-50C and optionally 1-10 of O, N and S as heteroatom(s);

A= O, S, NHCOO, NHCONR8, OCONH, OCO or COO;

X= H, halo, OH, (1-10C) acyloxy, (1-10C) alkylcarbonyl, N(R8)2 or (1-10C) alkoxy;

R8= H, 1-10C alkyl or 6-18C aryl;

n= 2-16;

a= 1-3;

b= (3-a);

c= 0 or 1.

INDEPENDENT CLAIMS are included for:

1. polysiloxanes obtained by sol-gel polycondensation of (a) 60-100 mol. % (I), (b) 0-40 mol. % organic sol-gel monomers and (c) 0-40 mol. % other suitable compounds of silicon and optionally other elements selected from boron, aluminum, phosphorus, tin, lead, transition metals, lanthanides and actinides;

2. resins obtained by partial or complete hydrolysis of groups X in (I) followed by partial or complete condensation, optionally with partial or complete saturation of the remaining S-OH groups with SiR9R10R11 groups;

3. condensates of partial or completely hydrolyzed siloxanes (I) with compounds as in (A) (c) (preferably silicon, titanium or zirconium alkoxides) and/or with substituted monoalkyl trialkoxysilanes; and (D) the preparation of (I).

4. dental compositions containing :

1.0.1-40 (preferably 5-15) wt. % (I), (A), (B) and/or (C),

2.0-20 (preferably 5-15) wt. % comonomer(s),

3.40-90 (preferably 75-88) wt. % (in)organic filler(s),

4.0.1-5 wt. % free radical-forming initiator system; and

5.0-20 wt. % modifiers, e.g. thioxotropic agents, dyes or stabilizers.

R9-R11= alkyl or alkenyl of 1-10C
(preferably 1-6C).

USE - The use of (I), polysiloxanes (A), resins (B) and/or co-condensates (C) is claimed in the preparation of **dental** compositions.

ADVANTAGE - (I) and the derived condensates have low viscosity and can be converted into incompressible, chemically stable networks. After photochemical, thermal or chemical hardening, the **dental** compositions have high compressive and flexural strength.

26/5/27 (Item 27 from file: 350)

0010266587
WPI ACC NO: 2000-579231/200054
XRAM Acc No: C2000-172419

Biocompatible, bioabsorbable polymers with mechanical properties that provide a better match with those of tissue structures

Patent Assignee: TEPHA INC (TEPH-N)
Inventor: WILLIAMS S F

Patent Family (8 patents, 23 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2000051662	A1	20000908	WO 2000US5676	A	20000303	200054	B
AU 200037228	A	20000921	AU 200037228	A	20000303	200065	E
EP 1159015	A1	20011205	EP 2000916064	A	20000303	200203	E
			WO 2000US5676	A	20000303		
JP 2002537906	W	20021112	JP 2000602325	A	20000303	200275	E
			WO 2000US5676	A	20000303		
US 6514515	B1	20030204	US 1999122827	P	19990304	200313	E
			US 2000518123	A	20000303		
US 20030072784	A1	20030417	US 1999122827	P	19990304	200329	E
			US 2000518123	A	20000303		
			US 2002289479	A	20021106		
US 6746685	B2	20040608	US 1999122827	P	19990304	200437	E
			US 2000518123	A	20000303		
			US 2002289479	A	20021106		
AU 2004242432	A1	20050120	AU 200037228	A	20000303	200512	NCE
			AU 2004242432	A	20041222		

Priority Applications (no., kind, date): AU 2004242432 A 20041222; US 2002289479 A 20021106; US 2000518123 A 20000303; US 1999122827 P 19990304

Alerting Abstract WO A1

NOVELTY - Composition or device for use in tissue engineering comprising a bioabsorbable biocompatible polymer comprising polyhydroxyalkanoate, where the polymer has >= 1 specific mechanical property, given in the specification, equivalent to the same properties of a differentiated tissue or tissue structure, where the polymer comprises polyhydroxyalkanoate, is new.

DESCRIPTION - Novel composition or device for use in tissue engineering comprising a bioabsorbable biocompatible polymer comprising polyhydroxyalkanoate, where the polymer has >= 1 specific mechanical property selected from stress, strain, stress-strain, stress-strain hysterisis, stress-strain relaxation, viscoelasticity, contraction stress, resting stress, Young's modulus, tensile strength, durability, yield point, failure strength, toughness, ductility, softness, hardness, creep, elastic deformation, wear resistance, shear failure, roughness, compressive strength, load capacity, modulus of elasticity, ultimate compressive strength, yield strength, stress-strain relationship, scratch resistance, abrasion resistance, flexural modulus, shear modulus, contact angle, surface tension, adhesive strength, surface free energy, bending strength, shear strength, bonding strength, bending strength, shear strength, bending stiffness, compressive modulus, bending modulus, fracture toughness, elongation, thermal expansion coefficient, fracture toughness, static and dynamic elasticity, longitudinal stretch, stress and strain, ultimate elongation, viscosity, expansion, static and kinetic coefficients of friction, plasticity, axial tension, shock absorbance, bearing strength, formability, rigidity, stress rupture, bend radius, impact strength, and fatigue strength (collectively (I)), equivalent to the same properties of a differentiated tissue or tissue structure, where the polymer comprises polyhydroxyalkanoate.

INDEPENDENT CLAIMS are also included for the following:

1.a device comprising a bioabsorbable biocompatible polymer with >= 1 mechanical property equivalent to a specific tissue or tissue structure, where the device is a tissue engineering scaffold, guided tissue repair material, wound dressing, drug delivery vehicle, anti-adhesion material, cell encapsulation material, coating, implant, stent, orthopedic device, prosthetic, adhesive, diagnostic, sutures, surgical mesh, staple, meniscus repair and regeneration device, screw (interference and meniscal screws), bone plate and plating system, cardiovascular patch, pericardial patch, sling, pin, anti-adhesion barrier, articular cartilage repair device, nerve guide, tendon and ligament repair device, atrial septal defect patch, bone graft scaffold, skin substitute, dural substitute, ocular implant, spinal fusion cage and/or muscular implant (cardiac and skeletal); and

2.producing a bioabsorbable, biocompatible polymer composition comprising:

1.selecting a tissue structure and measuring >= 1 of (I); and

2.selecting one or more monomers, which when linked in a polymeric form have the mechanical property or properties of tissue or tissue structure.

USE - The biocomaptible polymers are used to make devices for tissue engineering and tissue regeneration from these materials.

ADVANTAGE - The compositions have good shelf stability, resistance to

hydrolysis by water and moisture, and thus less restrictive packaging needs to exclude moisture after preparation, fabrication and during storage. They can be sterilized by radiation sources, in addition to ethylene oxide and can be used to create three dimensional polymer scaffold systems.
?

NPL Bibliographic Database Search – Chemical Abstracts on STN

Search Strategy

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     (FILE 'HOME' ENTERED AT 11:24:50 ON 12 SEP 2006)

     FILE 'HCAPLUS' ENTERED AT 11:25:38 ON 12 SEP 2006
                E GOLDBERG A/AU
                E GOLDBERG ARTIE/AU
                E GOLDBERG A/AU
L1            198 S E3 OR E15
                E GOLDBERG ARTIE
                E GOLDBERG ARTIE/AU
L2              1 S E4
                E BURSTONE/AU
L3              8 S E4 OR E5 OR E6
L4              0 S (L1 OR L2) AND L3
L5             16 S (L1 OR L2 OR L3) AND (DENTAL? OR ORTHODONT? OR ORTHO()DONTI?
L6              0 S (L1 OR L2 OR L3) AND ?ARYLEN?

     FILE 'REGISTRY' ENTERED AT 11:41:44 ON 12 SEP 2006
                E ARYLENE/CN
                E HETEROARYLENE/CN
L7              1 S E4
                E 308076-91-7/RN
L8              1 S E3

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L9              0 S L8
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L11           124 S ?PHENYLEN? AND (DENTAL? OR ORTHODONT? OR PROSTHODONT? OR (ORT
L12         20185 S (DENTAL? OR ORTHODONT? OR PROSTHODONT? OR (ORTHO OR PROSTHO)(
L13            70 S ?PHENYLEN? AND L12
L14            70 S L13 NOT L10

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L15             1 S E3

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L16             3 S L15 AND (DENTAL? OR ORTHODONT? OR PROSTHODONT? OR (ORTHO OR P
L17             1 S L16 NOT L10

     FILE 'REGISTRY' ENTERED AT 12:24:35 ON 12 SEP 2006
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L18             1 S E4
                E PARMAX/CN
L19             6 S E5 OR E6 OR E7 OR E8 OR E9 OR E10 OR E11

     FILE 'HCAPLUS' ENTERED AT 12:28:53 ON 12 SEP 2006
L20             0 S L19 AND (DENTAL? OR DENTIST? OR ORTHODONT? OR PROSTHODONT? OR
L21             0 S L19 AND (TOOTH? OR TEETH? OR MOUTH?)
```

Search Results

L10 ANSWER 7 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:331828 HCAPLUS <<LOGINID::20060912>>
DN 140:340095
ED Entered STN: 23 Apr 2004
TI Polymerizable bicyclic cyclopropane derivatives, compositions, and their use for ***dental*** materials
IN Moszner, Norbert; De Meijere, Armin; Zeuner, Frank; Fischer, Urs Karl
PA Liechtenstein
SO U.S. Pat. Appl. Publ., 12 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM C07D335-06
ICS C07D333-72; A61K006-00; C07D307-93
INCL 549023000; 549049000; 549396000; 549462000; 560119000; 523120000
CC 37-2 (Plastics Manufacture and Processing)
Section cross-reference(s): 62
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004077882	A1	20040422	US 2003-658993	20030909
	DE 10249324	A1	20040624	DE 2002-10249324	20021022
	EP 1413569	A1	20040428	EP 2003-22855	20031008
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	JP 2004143169	A2	20040520	JP 2003-358579	20031017
PRAI	DE 2002-10249324	A	20021022		

CLASS

AB Bicyclic cyclopropane derivs. have general formula I (n + m = 0-8; r = 1-4; R1 = absent or is a C1-20 alkylene radical which can be interrupted by O or S, cycloaliph. radical of 4-12 C atoms, a bicyclic radical of 4-12 C atoms, a C6-14 ***arylene*** or C7-20 ***alkylenearylene*** radical; when r = 1 R2 = C1-20 alkyl radical which can be interrupted by O or S, cycloaliph. radical of 4-12 C atoms, a bicyclic radical of 4-12 C atoms, a C6-14 aryl or a C7-20 alkylaryl radical; when r >1 R2 = r-times substituted aliph. C1-20 alkyl radical which can be interrupted by O or S, a cycloaliph. radical of 4-12 C atoms, an arom. radical of 6-14 C atoms or aliph.-arom. radical of 7-12 C atoms; X is absent or COO, CONH or OCONH, and Y = CH2, O, or S). Thus, 2-(bicyclo[3.1.0]hex-1-yl)acrylic acid Me ester (prepn. given; starting with 2-(cyclopenten-1-yl)-2-oxyacetic acid Me ester) was mixed (7.8%) with a urethane dimethacrylate 31.6, silicic acid 41.2, YF3 118.7, and a photoinitiator to prep. a ***dental*** cement.
ST cyclopropane bicyclo deriv polymerizable ***dental*** cement
IT ***Dental*** materials and appliances
(cements; polymerizable bicyclic cyclopropane derivs. for use in adhesives, coatings, and ***dental*** materials)
IT Adhesives
Coating materials
(polymerizable bicyclic cyclopropane derivs. for use in adhesives, coatings, and ***dental*** materials)

L10 ANSWER 9 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:947019 HCAPLUS <<LOGINID::20060912>>
DN 138:16669
ED Entered STN: 13 Dec 2002
TI Polymeric coatings for release of bioactive agents
IN Chudzik, Stephen J.; Kloke, Timothy M.; Lawin, Laurie R.; Ofstead, Ronald F.; Chappa, Ralph A.; Hergenrother, Robert W.; Anderson, Aron B.; Tran, Linh V.
PA USA
SO U.S. Pat. Appl. Publ., 15 pp., Cont.-in-part of U.S. Pat. Appl. 2002 32,434.
CODEN: USXXCO
DT Patent
LA English
IC ICM A01N001-00
INCL 523112000
CC 63-7 (Pharmaceuticals)
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002188037	A1	20021212	US 2002-175212	20020618
	US 6214901	B1	20010410	US 1999-292510	19990415
	US 6344035	B1	20020205	US 2000-693771	20001020
	US 2002032434	A1	20020314	US 2001-989033	20011121
	US 6890583	B2	20050510		
	CA 2490241	AA	20031224	CA 2003-2490241	20030618
	WO 2003105920	A1	20031224	WO 2003-US19343	20030618
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2003251570	A1	20031231	AU 2003-251570	20030618
	EP 1534354	A1	20050601	EP 2003-760470	20030618
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	JP 2006505303	T2	20060216	JP 2004-512820	20030618
PRAI	US 1999-292510	A1	19990415		
	US 2000-693771	A3	20001020		
	US 2001-989033	A2	20011121		
	US 1998-83135P	P	19980427		
	US 2002-175212	A	20020618		
	WO 2003-US19343	W	20030618		

AB A coating compn. and method of applying such a compn. under conditions of controlled humidity for use in coating device surfaces to control and/or improve their ability to release bioactive agents in aq. systems are described. The coating compn. is particularly adapted for use with medical devices that undergo significant flexion and/or expansion in the course of their delivery and/or use, such as stents and catheters. The compn. includes the bioactive agent in combination with a first polymer component such as polyalyl(meth)acrylate, polyaryl(meth)acrylate, polyaralkyl(meth)acrylate, or polyaryloxyalkyl(meth)acrylate and a second

polymer component such as poly(ethylene-co-vinyl acetate). For example, approx. 80% or more of the vincristine sulfate was released within one day from coatings contg. either poly(Bu methacrylate) or a blend of poly(Me methacrylate-co-Bu methacrylate) and poly(ethylene-co-vinyl acetate). The blend contg. poly(benzyl methacrylate) and poly (ethylene-co-vinyl acetate) showed sustained controlled release of vincristine sulfate for more than a one-month period. Also, the coating of the stents under different humidity level conditions can be used to control .beta.-estradiol rate of release from coatings contg. poly(ethylene-co-vinyl acetate) and poly (Bu methacrylate).

IT ***Dental*** materials and appliances
Prosthetic materials and Prosthetics
(implants; medical and prosthetic polymer coatings for release of bioactive agents)

IT Biosensors
Medical goods
Membrane, biological
(medical and prosthetic polymer coatings for release of bioactive agents)

IT Polymer blends
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(medical and prosthetic polymer coatings for release of bioactive agents)

IT Medical goods
(stents; medical and prosthetic polymer coatings for release of bioactive agents)

IT Chromatography
(support materials; polymer coatings for release of bioactive agents)

IT Medical goods
(sutures; medical and prosthetic polymer coatings for release of bioactive agents)

IT 9052-19-1, ***Parylene*** C
RL: DEV (Device component use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pretreatment with; medical and prosthetic polymer coatings for release of bioactive agents)

L10 ANSWER 10 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:780442 HCAPLUS <<LOGINID::20060912>>
DN 135:331824
ED Entered STN: 26 Oct 2001
TI Manufacture of hydrolysis-resistant, polymerizable acrylphosphonic acids
IN Moszner, Norbert; Rumphorst, Andre; Rheinberger, Volker; Zeuner, Frank
PA Ivoclar Vivadent AG, Liechtenstein
SO Eur. Pat. Appl., 23 pp.
CODEN: EPXXDW
DT Patent
LA German
IC ICM C07F009-38
ICS A61K006-00; C08F030-02; C07F009-6509
CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 29, 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1148060	A1	20011024	EP 2001-107896	20010411

	EP 1148060	B1	20030910		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	DE 10018968	C1	20020110	DE 2000-10018968	20000417
	AT 249468	E	20030915	AT 2001-107896	20010411
	CA 2344134	AA	20011017	CA 2001-2344134	20010412
	JP 2002012598	A2	20020115	JP 2001-116222	20010413
	JP 3616346	B2	20050202		
	US 2002016384	A1	20020207	US 2001-834799	20010413
	US 6710149	B2	20040323		
PRAI	DE 2000-10018968	A	20000417		
	US 2000-250698P	P	20001201		

AB The title acids [OP(OR)(OH)Z2Z1CH2C(:CH2)Z3]nA [R = H, C1-10 (un)substituted alkyl, C6-10 (un)substituted aryl; Z1 = O, S, C1-8 (un)substituted alkylene; Z2 = C1-10 (un)substituted alkylene, C6-14 (un)substituted ***arylene*** ; n = 1-5; when Z3 = cyano then n = 1, A = nil, or Z3 = CONR1; R1 = H, C1-10 (un)substituted alkyl, C6-10 (un)substituted aryl; when n = 1 then A = H, C1-10 (un)substituted alkyl, (un)substituted Ph; when n = 2-5 then A = no. of hydrocarbon groups in parentheses corresponding to n], their stereoisomers and mixts. resistant to hydrolysis at ambient temp., useful as components of adhesives, polymers, composites, cements, moldings or, esp., ***dental*** adhesives or fillings, were manufd. For example, sapon. of CH2:C(CO2Et)CH2OCH2CH2P(O)(OMe)2 with KOH and amidation of the resulting acrylic acid deriv. with Et2NH gave the amide CH2:C(CONEt2)CH2OCH2CH2P(O)(OMe)2 which was silylated with Me3SiBr and in-situ desilylated with MeOH to give a title monomer CH2:C(CONEt2)CH2OCH2CH2P(O)(OH)2 (monomer 1). Etherification of HOCH2CH2P(O)(OMe)2 with CH2:C(CH2Cl)COCN and silylation-desilylation of the product with MeOH gave CH2:C(COCN)CH2OCH2CH2P(O)(OH)2 (monomer 2). Both monomers resisted hydrolysis after being kept (20% solns.) in 1:1 H2O/EtOH for 12 wk at 37.degree.. Radical polymn. of 5.31 g monomer 1 with 2 mol.% azobisisobutyramidine-2HCl initiator for 2 h at 65.degree. in 10 mL H2O under Ar gave 23% polymer.

ST acrylphosphonic acid polymer manuf ***dental*** adhesive; hydrolysis resistant acrylphosphonic acid monomer manuf

IT ***Dental*** materials and appliances
(adhesives; manuf. of hydrolysis-resistant, polymerizable acrylphosphonic acids for use in)

IT ***Dental*** materials and appliances
(manuf. of hydrolysis-resistant, polymerizable acrylphosphonic acids for use in)

L10 ANSWER 11 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:707160 HCAPLUS <<LOGINID::20060912>>
DN 133:266858
ED Entered STN: 06 Oct 2000
TI Preparation of heterocyclic sulfonamide derivatives as matrix metalloprotease inhibitors
IN Watanabe, Fumihiko; Tamura, Yoshinori; Fujii, Yasuhiko
PA Shionogi & Co., Ltd., Japan
SO PCT Int. Appl., 49 pp.
CODEN: PIXXD2
DT Patent
LA Japanese

IC ICM C07D401-12
ICS C07D403-12; C07D409-12; A61K031-41; A61K031-454; A61K031-4725; A61K031-404; A61P043-00; A61P035-00; A61P019-02; A61P009-04; A61P013-12; A61P029-00
CC 28-10 (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): 1, 63
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000058304	A1	20001005	WO 2000-JP1708	20000321

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRAI JP 1999-84526 A 19990326

AB The title compds. I [A is a group represented by Q (wherein R5 is hydrogen or the like), or the like; R1 is hydroxyl or the like; R2 is a single bond, optionally substituted ***arylene*** , or optionally substituted ***heteroarylene*** ; R3 is a single bond, C.tplbond.C, or the like; R4 is optionally substituted aryl, optionally substituted heteroaryl, or the like] are prepd. The title compd. II in vitro showed IC50 of 0.001 .mu.M against against MMP-2. Formulations are given.
ST sulfonamide heterocyclic prepn potent matrix metalloprotease inhibitor; matrix metalloprotease inhibitor heterocyclic sulfonamide prepn
IT Inflammation
(***dental*** ; prepn. and effect of heterocyclic sulfonamide derivs.)

L10 ANSWER 12 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:707139 HCAPLUS <<LOGINID::20060912>>
DN 133:266857
ED Entered STN: 06 Oct 2000
TI Preparation of carbocyclic sulfonamide derivatives having heterocyclic rings as matrix metalloprotease inhibitors
IN Watanabe, Fumihiko; Tamura, Yoshinori; Kanda, Yasuhiko
PA Shionogi & Co., Ltd., Japan
SO PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM C07C311-29
ICS C07D257-04; C07D271-10; C07D333-34; A61K031-18; A61K031-38; A61K031-41; A61K031-4245; A61P035-00; A61P029-00; A61P013-12; A61P009-00
CC 28-10 (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): 1, 25, 63
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000058280	A1	20001005	WO 2000-JP1710	20000321

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU,

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            CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,
            IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
            MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK,
            SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ,
            BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
            DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
            CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
PRAI JP 1999-84528        A     19990326

AB   The title compds. I [A = (CH2)m; R1 is hydrogen, optionally substituted
     lower alkyl, or the like; R2 is a single bond, optionally substituted
       ***arylene***  , or the like; R3 is a single bond, C.tplbond.C, or the
     like; R4 is optionally substituted aryl or the like; M is hydroxyl or the
     like; and m is 0 or 1] are prepd.  The title compd. II in vitro showed
     IC50 of 0.077 .mu.M against MMP-2.  Formulations are given.
ST   carbocyclic heterocyclic sulfonamide prepn matrix metalloprotease
     inhibitor; sulfonamide carbocyclic heterocyclic prepn matrix
     metalloprotease inhibitor; matrix metalloprotease inhibitor carbocyclic
     heterocyclic sulfonamide prepn
IT   Inflammation
        (  ***dental***  ; prepn. and effect of carbocyclic sulfonamide derivs.
        having heterocyclic rings)

L10  ANSWER 13 OF 28  HCAPLUS  COPYRIGHT 2006 ACS on STN
AN   2000:707137  HCAPLUS <<LOGINID::20060912>>
DN   133:252745
ED   Entered STN:  06 Oct 2000
TI   Preparation of heteocyclic ring-containing .beta.-amino acid derivatives
     as matrix metalloprotease inhibitors
IN   Watanabe, Fumihiko; Araki, Yoshitaka; Hara, Shinichiro
PA   Shionogi & Co., Ltd., Japan
SO   PCT Int. Appl., 48 pp.
     CODEN: PIXXD2
DT   Patent
LA   Japanese
IC   ICM  C07C311-19
     ICS  C07C311-29; C07D257-04; C07D307-91; C07D333-34; C07D271-06;
          C07D271-10; C07D271-107; A61K031-41; A61K031-343; A61K031-381;
          A61K031-4245; A61P035-00; A61P013-12; A61P019-02; A61P009-10;
          A61K031-18; A61K031-215
CC   34-2 (Amino Acids, Peptides, and Proteins)
     Section cross-reference(s): 1, 27, 28, 63
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
     ---------------     ----   --------    --------------------    --------
PI   WO 2000058278        A1    20001005    WO 2000-JP1709          20000321
         W:  AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU,
             CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,
             IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
             MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK,
             SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ,
             BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
             DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
             CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
PRAI JP 1999-84527        A     19990326
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AB The title compds. G1CH(COM)CH(G2)N(SO2R2R3R4)R1 [R1 is hydrogen, optionally substituted lower alkyl, or the like; R2 is a single bond, optionally substituted ***arylene*** , or optionally substituted ***heteroarylene*** ; R3 is a single bond, CH:CH, or the like; R4 is optionally substituted aryl or the like; G1 and G2 are each independently hydrogen or the like; and M is hydroxyl or the like] are prepd. The title compd. I in vitro showed IC50 of 0.009 .mu.M against MMP-2. Formulations are given.

ST heteocyclic ring contg amino acid prepn metalloprotease inhibitor; metalloprotease inhibitor heteocyclic ring contg amino acid prepn

IT Inflammation
(***dental*** ; effect of heteocyclic ring-contg. .beta.-amino acid derivs)

L10 ANSWER 14 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:646020 HCAPLUS <<LOGINID::20060912>>
DN 133:238475
ED Entered STN: 15 Sep 2000
TI Hydrolyzable and polymerizable silanes, their preparation and use
IN Wolter, Herbert; Schmitzer, Siegfried
PA Fraunhofer-Gesellschaft zur Forderung der Angewandten Forschung e.V., Germany
SO PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DT Patent
LA German
IC ICM C07F007-12
ICS C07F007-18; C07F007-10; C08G077-20; C08G077-22; C08F030-08
CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 29, 42, 63
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000053612	A1	20000914	WO 2000-DE765	20000307
	W: AU, BR, CA, CZ, KR, NO, NZ, PL, SI, TR, US, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19910895	A1	20000921	DE 1999-19910895	19990311
	CA 2366629	AA	20000914	CA 2000-2366629	20000307
	EP 1159281	A1	20011205	EP 2000-916815	20000307
	R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE, PT, SI, FI				
	US 6794527	B1	20040921	US 2001-936206	20011213
PRAI	DE 1999-19910895	A	19990311		
	WO 2000-DE765	W	20000307		

AB The silanes have the formula {[B(CONHR1]eR0c}bSiXaR4-a-b)d, where B is a C2-50 org. residue with .gtoreq.1 C-C double bond, R = (un)substituted C1-15 alkyl, alkenyl, aryl, alkylaryl or arylalkyl, R0 and R1 = (un)substituted alkylene, alkenylene, ***arylene*** , ***alkylenearylene*** or ***arylenealkylene*** , X = H, halogen, OH, alkoxy, acyl, acyloxy, alkoxycarbonyl or NR22, R2 = H, alkyl or aryl, a and b = 1-3, a + b = 2-4, c = 0 or 1, d = 1-10, and e = 1-4, and are used in the prodn. of silicic acid (hetero)polycondensates and (hetero)polymers. Thus, glycerol 1,3-dimethacrylate was esterified with succinic anhydride, and the product was treated with (EtO)3Si(CH2)3NCO to

give (CH2:CMeCO2CH2)2CHO2CCH2CH2CONH(CH2)3Si(OEt)3, which was hydrolyzable to form a coating material that could be cured by radical polymn. of the methacrylate groups or their copolymn. with dodecamethylene dimethacrylate. The copolymer was also useful in ***dental*** fillings or prostheses.

ST unsatd hydrolyzable silane monomer; ***dental*** composite unsatd hydrolyzable silane

IT ***Dental*** materials and appliances
(composites; prepn. of hydrolyzable and polymerizable silanes for use in)

L10 ANSWER 15 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:219742 HCAPLUS <<LOGINID::20060912>>
DN 130:272052
ED Entered STN: 08 Apr 1999
TI ***Dental*** materials based on oligomers or polymers obtained by ring-opening metathesis polymerization (ROMP)
IN Bissinger, Peter
PA Espe Dental A.G., Germany; 3M Espe A. G.
SO Eur. Pat. Appl., 15 pp.
CODEN: EPXXDW
DT Patent
LA German
IC ICM A61K006-083
CC 63-7 (Pharmaceuticals)
Section cross-reference(s): 35
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 904767	A2	19990331	EP 1998-118366	19980929
	EP 904767	A3	20040204		
	EP 904767	B1	20051214		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	DE 19742980	A1	19990401	DE 1997-19742980	19970929
	AU 9887147	A1	19990415	AU 1998-87147	19980929
	AU 736342	B2	20010726		
	JP 11158022	A2	19990615	JP 1998-275028	19980929
	US 6147136	A	20001114	US 1998-162454	19980929
PRAI	DE 1997-19742980	A	19970929		

AB ***Dental*** filling materials, cements, inlays, veneers, etc., are prepd. from oligomers or polymers (:CHR1CH:)m or I [R1 = (substituted) C2-10 alkylene, alkenylene, or epoxyalkylene, (substituted) C6-15 ***arylene*** , di- or tetrahydrofuran-2,5-dione-3,4-diyl; R2, R3 = H, C1-15 alkyl, CO2R6, CONHR6, PO3H2,, SO3H, OH; R6 = H, (O- or N-contg.) alkyl or aryl] by ROMP with catalysis by transition metal org. compds. The starting oligomers or polymers addnl. contain groups which can be subjected to radical polymn. (leading to materials showing little shrinkage during hardening) or to hardening with a reactive filler (providing materials with improved mech. properties). Thus, 30 g exo-7-oxabicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic anhydride was dissolved in 23.5 g hydroxyethyl methacrylate, stirred for 10 h, mixed with an aq. soln. of K2RuCl5.xH2O, and heated to 60.degree. to produce a viscous soln. which was dried under vacuum. The residue was combined with 10 g triethylene glycol dimethacrylate, and 10 g of the mixt. was mixed with bis(hydroxymethyl)tricyclo[5.2.1.02,6]decane diacrylate 10, camphorquinone

0.07, fumed silica 0.5, and quartz powder 79.5 g to produce a homogeneous paste. The paste was placed in a mold and hardened by irradn. with visible light. The product had a compression strength of 412 MPa, bending strength of 98 MPa, and shrinkage during polymn. of 1.6%.

ST ***dental*** polymer hardening ROMP; ring opening metathesis polymn ***dental*** material

IT ***Dental*** materials and appliances (bonding agents; ***dental*** materials based on oligomers or polymers obtained by ROMP)

IT ***Dental*** materials and appliances (bridges, temporary; ***dental*** materials based on oligomers or polymers obtained by ROMP)

IT Polymerization (cationic; ***dental*** materials based on oligomers or polymers obtained by ROMP)

IT ***Dental*** materials and appliances (cements; ***dental*** materials based on oligomers or polymers obtained by ROMP)

IT ***Dental*** materials and appliances (crowns, temporary; ***dental*** materials based on oligomers or polymers obtained by ROMP)

IT **Polyolefins**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(***dental*** materials based on oligomers or polymers obtained by ROMP)

IT ***Dental*** materials and appliances (fillings; ***dental*** materials based on oligomers or polymers obtained by ROMP)

IT Ionomers
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(glass; ***dental*** materials based on oligomers or polymers obtained by ROMP)

IT ***Dental*** materials and appliances (impressions; ***dental*** materials based on oligomers or polymers obtained by ROMP)

IT ***Dental*** materials and appliances (inlays; ***dental*** materials based on oligomers or polymers obtained by ROMP)

IT Polymerization
(metathetic, ring-opening; ***dental*** materials based on oligomers or polymers obtained by ROMP)

IT ***Dental*** materials and appliances (molds; ***dental*** materials based on oligomers or polymers obtained by ROMP)

IT ***Dental*** materials and appliances (onlays; ***dental*** materials based on oligomers or polymers obtained by ROMP)

IT Epoxides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymers; ***dental*** materials based on oligomers or polymers obtained by ROMP)

IT Polymerization
(radical; ***dental*** materials based on oligomers or polymers obtained by ROMP)

IT ***Dental*** materials and appliances (resins; ***dental*** materials based on oligomers or polymers obtained by ROMP)

IT ***Dental*** materials and appliances
(veneers; ***dental*** materials based on oligomers or polymers obtained by ROMP)
IT 79-10-7, 2-Propenoic acid, biological studies 79-41-4, biological studies 25657-74-3D, oxidized 123938-79-4, Chelon-Fil 221881-15-8 221881-16-9
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(***dental*** materials based on oligomers or polymers obtained by ROMP)

L10 ANSWER 17 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1997:656999 HCAPLUS <<LOGINID::20060912>>
DN 127:293752
ED Entered STN: 16 Oct 1997
TI Multifunctional vinylcyclopropane derivatives for use in ***dental*** materials
IN Rheinberger, Volker; Zeuner, Frank; Moszner, Norbert
PA Ivoclar A.-G., Liechtenstein
SO Eur. Pat. Appl., 15 pp.
CODEN: EPXXDW
DT Patent
LA German
IC ICM C07C069-743
ICS C07C067-03; C07C067-343; A61K006-083; C08F036-14
CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 24, 63
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 798286	A1	19971001	EP 1997-250079	19970317
	EP 798286	B1	20010725		
	R: AT, CH, DE, FR, GB, IT, LI, SE				
	DE 19612004	A1	19971016	DE 1996-19612004	19960318
	DE 19612004	C2	19980528		
	CA 2199568	AA	19970918	CA 1997-2199568	19970310
	CA 2199568	C	20020226		
	US 5886212	A	19990323	US 1997-818849	19970317
	AT 203510	E	20010815	AT 1997-250079	19970317
	JP 10045661	A2	19980217	JP 1997-65062	19970318
	JP 3002152	B2	20000124		
PRAI	DE 1996-19612004	A	19960318		

AB The vinylcyclopropanes I [R1 = H, alkyl, aryl; R2 = alkylene (optionally contg. O, S, or N atoms) or ***arylene*** ; Z1, Z2 = CO, CO2, COS, carbonylimino, SO2 (or Z1 = direct bond); n = 2-6], useful in ***dental*** materials, are prepd. Adding 55.6 mmol dicyclohexylcarbodiimide over 2 h to 55.6 mmol mono-Me 2-vinyl-1,1-cyclopropanedicarboxylate (prepd. in 83% yield by sapon. of the di-Me ester), 18.7 mmol trimethylolpropane, and 0.5 mmol 4-(dimethylamino)pyridine stirred at 0-5.degree. and stirring for 8 h gave 64% trimethylolpropane tris(Me 2-vinyl-1,1-cyclohexanedicarboxylate). Use of the products in ***dental*** cements is exemplified.
ST vinylcyclopropane deriv manuf; ***dental*** cement vinylcyclopropane deriv; trimethylolpropane vinylcyclopropanedicarboxylate; dimethyl vinylcyclopropanedicarboxylate sapon; resorcinol vinylcyclopropanedicarboxylate homopolymer

IT ***Dental*** materials and appliances
(cements; multifunctional vinylcyclopropane derivs. for use in ***dental*** materials)

L10 ANSWER 18 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1997:534543 HCAPLUS <<LOGINID::20060912>>
DN 127:140598
ED Entered STN: 22 Aug 1997
TI Light-curable composite ***dental*** material
IN Moszner, Norbert; Rheinberger, Volker
PA Ivoclar Ag, Liechtenstein
SO Eur. Pat. Appl., 9 pp.
CODEN: EPXXDW
DT Patent
LA German
IC ICM A61K006-083
CC 63-7 (Pharmaceuticals)
Section cross-reference(s): 35
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 783880	A2	19970716	EP 1996-250293	19961218
	EP 783880	A3	20000517		
	EP 783880	B1	20040818		
	R: AT, CH, DE, FR, GB, IT, LI, SE				
	DE 19601924	A1	19970717	DE 1996-19601924	19960112
	DE 19601924	B4	20050113		
	AT 273683	E	20040915	AT 1996-250293	19961218
	AU 9710041	A1	19970814	AU 1997-10041	19970106
	AU 697885	B2	19981022		
	CA 2194533	AA	19970713	CA 1997-2194533	19970107
	CA 2194533	C	20020514		
	US 5847025	A	19981208	US 1997-780968	19970109
	JP 09194515	A2	19970729	JP 1997-3341	19970110
	JP 3021378	B2	20000315		
	US 5985958	A	19991116	US 1998-134023	19980814
PRAI	DE 1996-19601924	A	19960112		
	US 1997-780968	A1	19970109		

AB A compn. curable by exposure to blue light, esp. useful for ***dental*** fillings, contains (a) .gtoreq.1 light-curable monomer, (b) .gtoreq.1 filler, and (c) an anaerobic stabilizer and/or stable org. radicals. The stabilizer, which prevents premature hardening induced by ambient light even in the absence of dissolved O2, is preferably a phenothiazine I [R, R1 = C1-5 alkylene or oxyalkylene, C6-12 ***arylene*** ; X, Y = H, halo, NO2, (substituted) amino, OH, CN, CHO, CO2H, CONH2, SH, etc.]. The stable org. radical, which serves the same function, is preferably 2,2-diphenyl-1-picrylhydrazyl, galvinoxyl, trityl, or a piperidinyl-1-oxyl deriv. Thus, a monomer mixt. was prepd. contg. bis-GMA 41.77, UDMA 37.42, TEGDMA 20.00, hydroquinone mono-Me ether (inhibitor) 0.01, camphorquinone (photoinitiator) 0.30, and N-(2-cyanoethyl)-N-methylaniline (photoinitiator) 0.50 wt.%. This monomer mixt. 26.0 was combined with silanized Ba Al silicate glass 44.0, YbF3 14.5, silanized SiO2-ZrO2 mixed oxide as spherical particles 14.5, and silanized pyrogenic silicic acid 1.0 wt.%. Addn. of 0.10 wt.% phenothiazine to this compn. increased the curing time under std. conditions from 70 (control) to 130 s without

significantly affecting the bending strength or elastic modulus.

L10 ANSWER 19 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:128027 HCAPLUS <<LOGINID::20060912>>
DN 124:156112
ED Entered STN: 02 Mar 1996
TI X-ray opaque ***dental*** resins
IN Rheinberger, Volker; Moszner, Norbert; Salz, Ulrich
PA Ivoclar AG, Liechtenstein
SO Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DT Patent
LA German
IC ICM C07C069-76
ICS A61K006-083; C07C233-54; C08F220-30
CC 63-7 (Pharmaceuticals)
Section cross-reference(s): 37
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 685454	A1	19951206	EP 1995-250125	19950524
	EP 685454	B1	19971015		
	EP 685454	B2	20010627		
	R: AT, CH, DE, FR, GB, IT, LI, SE				
	DE 4419386	A1	19951207	DE 1994-4419386	19940530
	DE 4419386	C2	19960919		
	AT 159243	E	19971115	AT 1995-250125	19950524
	US 5780668	A	19980714	US 1995-450812	19950525
	CA 2150438	AA	19951201	CA 1995-2150438	19950529
	CA 2150438	C	19991123		
	JP 08325203	A2	19961210	JP 1995-132436	19950530
	JP 2807641	B2	19981008		
PRAI	DE 1994-4419386	A	19940530		

AB Esters and amides of iodinated benzoic acid (I; R1 = H, C1-3 alkyl; R2 = C1-6 alkylene, oxyalkylene, ***arylene*** ; .gtoreq.3 of R3-R7 = I; other R3-R7 = H, C1-6 alkyl, C1-6 alkoxy,Cl, Br, OH, NH2, dialkylamino, acylamino, etc.; X = O, NH; n = 1-3) are readily sol. in conventional ***dental*** monomers and can be incorporated into ***dental*** resins by radical or anionic polymn. The x-ray-opaque component thus becomes covalently bound to the resin and cannot be washed out. Thus, glycerol dimethacrylate was condensed with 2,3,5-triiodobenzoyl chloride to form 2,3-dimethacryloyloxypropyl-1-(2,3,5-triiodobenzoyloxy)propane (II). A mixt. of II 49.8, triethylene glycol dimethacrylate 49.7, and photoinitiator [camphorquinone + cyanoethyl(methyl)aniline] 0.5 wt.% was photopolymd. at 400-500 nm wavelength and 200 mW/cm2 for 2 .times. 3 min to produce a resin with twice the x-ray opacity of Al at the same thickness.
ST radiopaque ***dental*** acrylate resin iodobenzoate
IT ***Dental*** materials and appliances
(x-ray opaque ***dental*** resins)
IT Radiography
(contrast agents, x-ray opaque ***dental*** resins)
IT 760-93-0, Methacrylic anhydride 868-77-9 42860-33-3, 2,3,5-Triiodobenzoyl chloride 92906-79-1 101525-90-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(x-ray opaque ***dental*** resins)

IT 161042-09-7P 161042-10-0P 173854-53-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(x-ray opaque ***dental*** resins)
IT 161042-11-1P 161042-12-2P 173854-54-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(x-ray opaque ***dental*** resins)
IT 173854-55-2P 173854-56-3P 173854-57-4P
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(x-ray opaque ***dental*** resins)
IT 173854-58-5 173854-59-6 173854-60-9
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(x-ray opaque ***dental*** resins)

L10 ANSWER 20 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:677203 HCAPLUS <<LOGINID::20060912>>
DN 123:145606
ED Entered STN: 15 Jul 1995
TI Polymerizable enamines, their preparation and their use
IN Rheinberger, Volker; Moszner, Norbert; Salz, Ulrich
PA Ivoclar AG, Liechtenstein
SO Eur. Pat. Appl., 17 pp.
CODEN: EPXXDW
DT Patent
LA German
IC ICM C07C229-30
ICS C08F020-36; C08F246-00; A61K006-083
CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 63
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 634393	A1	19950118	EP 1994-250166	19940624
	EP 634393	B1	19970917		
	R: CH, DE, FR, GB, IT, LI, NL				
	DE 4323617	A1	19950119	DE 1993-4323617	19930712
	JP 07206794	A2	19950808	JP 1994-159038	19940711
	JP 10025270	A2	19980127	JP 1997-72503	19940711
PRAI	DE 1993-4323617	A	19930712		
	JP 1994-159038	A3	19940711		

AB The enamines R5CH:C(A)Q[R1HXm]1C(:Y)CH:C(R4)N(R2)R3Zn [I; A = H, alkyl; Q = CO2, CONH, C6H4, ***arylene*** ; R1 = alkylene, oxyalkylene, C6H5, ***arylene*** ; R2 = H, alkyl, aryl; R3 = H, alkyl, aryl; (n = 0) alkylene, ***arylene*** ; R4 = alkyl; R = H, Ph, CO2H, carboxyalkyl, CN; X = O, S, NH; Y = O, S, Z = functional group; l = .gtoreq.1; m, n = 0, 1] are obtained from R5CH:C(A)Q[R1HXm]1C(:Y)CH2C(:Y)R4 and R2NH2, R2NHR3Zn, R3NHR2NHR3, or HN(R3Zn)R2NHR3Zn and may be used for the prepn. of polymers and ***dental*** compns. Thus, 2-(acetoacetoxy)ethyl methacrylate was treated with BuNH2 to give an enamine methacrylate which could be radically polymd.
ST enamine methacrylate polymn ***dental*** compn
IT Enamines
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polymerizable enamines for ***dental*** compns.)

IT ***Dental*** materials and appliances
(fillings, enamine polymers for ***dental*** compns.)
IT ***Dental*** materials and appliances
(impressions, enamine polymers for ***dental*** compns.)
IT ***Dental*** materials and appliances
(liners, enamine polymers for ***dental*** compns.)
IT Enamines
RL: IMF (Industrial manufacture); PREP (Preparation)
(polymers, enamine polymers for ***dental*** compns.)
IT 107-13-1DP, Acrylonitrile, Michael addn. products with polymd. enamines
155915-16-5DP, Michael addn. products with acrylonitrile 155915-16-5P
164914-69-6P
RL: IMF (Industrial manufacture); PREP (Preparation)
(enamine polymers for ***dental*** compns.)
IT 164914-67-4P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(enamine polymers for ***dental*** compns.)
IT 155915-03-0P 155915-04-1P 155915-05-2P 155915-06-3P 155915-07-4P
155915-09-6P 155915-10-9P 155915-11-0P 155915-12-1P 155915-13-2P
164914-65-2P 164914-66-3P
RL: IMF (Industrial manufacture); PREP (Preparation)
(polymerizable enamines for ***dental*** compns.)
IT 155915-15-4P 156057-35-1P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polymerizable enamines for ***dental*** compns.)
IT 56-87-1, 2,6-Diaminohexanoic acid, reactions 60-32-2, 6-Aminohexanoic acid 109-73-9, 1-Butanamine, reactions 111-26-2, 1-Hexanamine 111-86-4, 1-Octanamine 124-22-1, 1-Dodecanamine 156-87-6, 3-Amino-1-propanol 2038-03-1, N-(2-Aminoethyl)morpholine 3236-53-1, 2,2,4-Trimethylhexamethylenediamine 21282-97-3, 2-(Acetoacetoxy)ethyl methacrylate 155914-99-1, Polyethylene glycol acetoacetate methacrylate
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; polymerizable enamines for ***dental*** compns.)

L10 ANSWER 23 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1993:480284 HCAPLUS <<LOGINID::20060912>>
DN 119:80284
ED Entered STN: 21 Aug 1993
TI Siloxane-containing ***dental*** resin mass
IN Wolter, Herbert; Storch, Werner
PA Fraunhofer-Gesellschaft zur Foerderung der Angewandten Forschung eV, Germany
SO Ger. Offen., 32 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM A61K006-093
CC 63-7 (Pharmaceuticals)
Section cross-reference(s): 37
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI DE 4133494 A1 19930415 DE 1991-4133494 19911009
DE 4133494 C2 19960328
WO 9307230 A1 19930415 WO 1992-US8530 19921007
W: AU, BB, BG, BR, CA, CS, FI, HU, JP, KP, KR, LK, MG, MN, MW, NO, PL, RO, RU, SD, US
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, SN, TD, TG
AU 9227674 A1 19930503 AU 1992-27674 19921007
EP 643752 A1 19950322 EP 1992-922122 19921007
EP 643752 B1 19990915
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, SE
JP 07504157 T2 19950511 JP 1993-507160 19921007
JP 3606325 B2 20050105
CA 2120490 C 19980127 CA 1992-2120490 19921007
AT 184627 E 19991015 AT 1992-922122 19921007
ES 2135417 T3 19991101 ES 1992-922122 19921007
US 5877232 A 19990302 US 1996-712653 19960913
GR 3031475 T3 20000131 GR 1999-402566 19991008
PRAI DE 1991-4133494 A 19911009
WO 1992-US8530 A 19921007
US 1994-211479 B1 19941103

AB A self-hardening or photochem. or thermally hardenable ***dental*** resin mass is prepd. by hydrolytic condensation of monomers comprising 1-100 mol% YnSiXmR4-(n+m) and/or [XnRkSi(R2Al)4-(n+k)]xB [A = O, S, PR1, POR1, NHC(:O)O, NHC(:O)ONR1; B = straight- or branched-chain unsatd. org. residue, e.g. (meth)acrylate ester; R = alkyl, alkenyl, aryl, alkylaryl, aralkyl; R1 = H, alkyl, aryl; R2 = alkylene, ***arylene*** , ***alkylenearylene*** ; X = H, halo, OH, alkoxy, acyloxy, alkylcarbonyl, alkoxycarbonyl, NR12; Y = (un)substituted 1,4,6-trioxaspiro[4.4]nonane-contg. residue; n = 1-3; k = 0-2; l = 0, 1; x = integer]. These resins possess excellent abrasion resistance, form stability, adhesiveness to enamel and dentin, and polishability, low thermal expansion coeffs., high radioopacity, and little or no shrinkage (or even some expansion) during hardening. Thus, trimethylolpropane triacrylate 88.9 underwent thiol addn. with (mercaptomethyl)methyldiethoxysilane in the presence of KOH, followed by HCl-catalyzed hydrolysis and condensation of the MeO groups to provide a transparent viscous resin. This resin 15.6 was combined with 2,2-bis[4'-(2"-methacryloylethoxy)phenyl]propane 6.44, 4-methoxyphenyl 0.007, ethylbenzoin 0.06, camphorquinone (photoinitiator) 0.10, 1-n-butoxyethyl 4-(dimethylamino)benzoate 0.13, silanized Sr silicate glass (filler) 54.4, and silanized silica gel 23.3 g to form a pasty mass which was photochem. hardened. The product showed a bending strength of 110 MPa, water uptake of 0.57%, and shrinkage after 24 h of 2.3%. The prepn. of 2-trimethoxysilylpropyl Me ether-1,4,6-trioxaspiro[4.4]nonane from .gamma.-butyrolactone and 3-glycidyloxypropyltrimethoxysilane, its hydrolytic condensation in aq. NEt3, its cationic polymn. initiated by UVi-6990 or KI-85, and its photochem. hardening under UV are also described.

ST ***dental*** siloxane resin

L10 ANSWER 24 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1989:516518 HCAPLUS <<LOGINID::20060912>>
DN 111:116518
ED Entered STN: 01 Oct 1989
TI Curable compositions containing (meth)acryloyloxy-terminated

(polyoxy)hydrocarbylenes for ***dental*** cements
IN Nakabayashi, Norio; Honda, Shigemichi; Arakane, Mitsuo; Yamamoto, Takashi
PA Mitsui Petrochemical Industries, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08F020-20
ICS A61K006-00; A61K006-08; C07C069-54; C08F299-00
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 63
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 01087608	A2	19890331	JP 1987-245372	19870929
JP 07107085	B4	19951115		
PRAI JP 1987-245372		19870929		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 01087608	ICM	C08F020-20
	ICS	A61K006-00; A61K006-08; C07C069-54; C08F299-00
	IPCI	C08F0020-20 [ICM,4]; C08F0020-00 [ICM,4,C*]; A61K0006-00 [ICS,4]; A61K0006-08 [ICS,4]; A61K0006-02 [ICS,4,C*]; C07C0069-54 [ICS,4]; C07C0069-00 [ICS,4,C*]; C08F0299-00 [ICS,4]
	ECLA	C08F020/20

OS MARPAT 111:116518
AB The title compns., with good curability, contain the esters CH2:CHCO2Z1Z2Z3O2CC(Me):CH2 (I) [Z1, Z3 = (CH2CH2O)n, (n = 0-10); Z2 = alkylene, ***arylene*** , cycloalkylene]. A 1:1 mixt. of CH2:C(Me)CO2CH2CH2OCOCH:CH2 and bis[2-(methacryloyloxy)ethyl] (2,2,4-trimethylhexamethylene)dicarbamate contg. a photoinitiator was irradiated by a Xe lamp in a mold for 2 min to give a molding with compressive strength 43,600 kg/cm2 and Brinell hardness 40.7; vs. 33,300 and 27.2, resp., with ethylene glycol dimethacrylate in place of I.
ST ***dental*** cement crosslinking agent; methacrylate acrylate crosslinking agent; urethane methacrylate ***dental*** cement
IT ***Dental*** materials and appliances
(cements, photopolymerizable, crosslinkers for, alkylene acrylate methacrylates as)
IT Crosslinking agents
(photochem., alkylene acrylate methacrylates, for ***dental*** cements)
IT 69040-46-6 69040-48-8 122588-36-7 122588-37-8
RL: USES (Uses)
(crosslinkers, for photocurable ***dental*** composites, prepn. of)
IT 122609-29-4 122609-30-7
RL: USES (Uses)
(***dental*** cements, photochem. crosslinking of)

L10 ANSWER 25 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1988:62270 HCAPLUS <<LOGINID::20060912>>
DN 108:62270
ED Entered STN: 20 Feb 1988
TI Polymeric antibacterial compositions
IN Hollister, Kenneth R.

PA Eastman Kodak Co., USA
SO U.S., 9 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C08F114-02
ICS C08F214-02; A01N033-12
INCL 525327100
CC 62-7 (Essential Oils and Cosmetics)
Section cross-reference(s): 35
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4621120	A	19861104	US 1985-718303	19850401
	CA 1250394	A1	19890221	CA 1985-482285	19850524
	EP 200903	A2	19861217	EP 1986-104140	19860325
	EP 200903	A3	19890315		
	EP 200903	B1	19920129		
	R: CH, DE, FR, GB, IT, LI, NL, SE				
	JP 61246205	A2	19861101	JP 1986-72611	19860401
PRAI	US 1985-718303	A	19850401		

AB Vinylbenzyl copolymers (CH2CR1)a(COA)eBgY+R2 Xn-/n (CH2CR1)b(COA)fBgZ+R3 Xm-/m (R1 = H, Me; A = O, NH; B = C1-20 alkylene, C6-14 ***arylene*** , C7-15 ***arylene*** alkylene; Y, Z = R4R5N+, quaternized N-contg. heterocylic radical; R3-R5 = C1-4 alkyl, Xn/n, Xm/m = mono- or multivalent acid anion; n, m = 1-3; e, f, o = 0,1; a = 15-90 mol%; b = 10-85 mol%) are prepd. as bactericides, esp. useful in dentifrices. Thus, a mixt. of m-chloro- and p-chloromethylstyrene (60:40) was polymd. at 60.degree. in presence of Bz2O2 to give poly[m-chloro- and p-chloromethylstyrene (60:40)], which (0.15 mol) was quaternized 1st with 0.090 mol trimethylamine and then with 0.060 mol N,N-dimethyloctadecylamine, followed by ion-exchange and purifn., to give poly[N-(m-vinyl- and p-vinylbenzyl)-N,N-dimethyl-N-octadecylammonium chloride (60:40)-co-N-(m-vinyl- and p-vinylbenzyl)-N,N,N-trimethylammonium chloride (60:40)] (mol ratio 1:1.5) (I). Plaque accumulation was inhibited by 0.1% I in an in vitro model using Streptococcus mutans and human saliva.
ST quaternary vinylbenzyl copolymer prepn bactericide; dentifrice quaternary vinylbenzyl copolymer
IT Dentifrices
Mouthwashes
(bactericides for, quaternized vinylbenzyl copolymers as)
IT Quaternary ammonium compounds, polymers
RL: PREP (Preparation)
(prepn. of, as bactericides for ***dental*** products)
IT Bactericides, Disinfectants, and Antiseptics
(quaternized vinylbenzyl copolymers)
IT 110281-83-9P 110281-85-1P 110281-86-2P 110281-88-4P 110281-92-0P 110341-21-4P
RL: PREP (Preparation)
(prepn. of, as bactericide, for dentifrices)

L10 ANSWER 26 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1986:539617 HCAPLUS <<LOGINID::20060912>>
DN 105:139617
ED Entered STN: 18 Oct 1986
TI Chain extended urethane diacrylate and ***dental*** impression

formation .
IN Hare, Pamela H.
PA Dentsply International, Inc., USA
SO Eur. Pat. Appl., 38 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C08G018-81
ICS C08G018-67; C08G018-10; C07C125-06
CC 63-6 (Pharmaceuticals)
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 173085	A2	19860305	EP 1985-109410	19850726
	EP 173085	A3	19870603		
	EP 173085	B1	19940608		
	R: CH, DE, FR, GB, IT, LI, NL, SE				
	CA 1312402	A1	19930105	CA 1985-486491	19850709
	JP 61095019	A2	19860513	JP 1985-163798	19850724
	JP 06099537	B4	19941207		
	AU 587783	B2	19890831	AU 1985-45629	19850731
	AU 8545629	A1	19860206		
	US 5177120	A	19930105	US 1987-120269	19871113
	ZA 8708892	A	19890329	ZA 1987-8892	19871126
PRAI	US 1984-636136	A	19840731		
	US 1984-636175		19840731		
	US 1984-636138	A	19840731		
	US 1986-935455	A2	19861126		

AB A compn., useful as a ***dental*** impression material, comprises the urethane polyacrylate R1AR2 [R1 = CH2:CR3CO2XNHCO2; R2 = R1, CH2:CR3CO2X1, CH2:CR3CO2X1O, CH2:CR3CO2X1NHCO2; R3 = H, F, cyano, (un)substituted alkyl, aryl and may be same or different in each position; A = divalent hydrocarbon residue; X = (un)substituted C2-100 alkylene, ***arylene*** ; X1 = (un)substituted alkylene, ***arylene***]. The compn. is nontoxic in the oral cavity, stable in storage for .gtoreq.1 mo as a one-component compn. when actinic light free, and assumes a permanent elastomeric memory when exposed to light filtered to limited wavelengths within the visible light range for 1 min to a depth of 1 in. The urethane polyacrylate provided with an initiator activated by actinic light within the visible light range of about 360 to about 600 nm; it can be substantially stable. Thus, an elastomeric prepolymer was prepd. according to the following formulation: polypropylene glycol (mol. wt. 2000) 690, trimethylhexamethylene diisocyanate (I) 145, di-Bu tin dilaurate 0.417, hydroxyethyl methacrylate (II) 50.0, 1,4-butanediol 31.0, and isocyanatoethyl methacrylate (III) 53.4 g. In a 2 L reactor, the propylene glycol (2 equiv. hydroxy) was reacted with I (4 equiv. isocyanate) employing the di-Bu tin dilaurate with stirring overnight, then 45 g II was added dropwise, followed by the butanediol. This mixt. was stirred overnight, III added dropwise, and 5 g II was finally added about 3 h after the final addn. of III to be sure all the free isocyanate was reacted, and the pot contents were stirred 24 h and then unloaded. A ***dental*** impression forming compn. was compounded by hand mixing the above prepolymer 100, camphoroquinone 0.15, and methyldiethanolamine 0.15 parts by wt. at ambient conditions and this compn. was irradiated with a 500 W photoflood lamp for 5 min at 2 in to give an elastic solid which had 0.65% compression set, 3.75% strain, and 0.23% expansion at 24 h.

ST urethane acrylate ***dental*** impression
IT Urethane polymers, biological studies
RL: BIOL (Biological study)
(acrylate-terminated, as ***dental*** impression material)
IT ***Dental*** materials and fillings
(impressions, chain extended urethane diacrylate as)
IT 79-10-7D, esters with hydroxy-terminated chain extended polyurethanes
RL: BIOL (Biological study)
(as ***dental*** impression material)
IT 104493-64-3P
RL: PREP (Preparation)
(prepn. of, as ***dental*** impression material)

L10 ANSWER 28 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1981:36286 HCAPLUS <<LOGINID::20060912>>
DN 94:36286
ED Entered STN: 12 May 1984
TI **Development of improved materials for extraoral maxillofacial prostheses**
AU Cowsar, Donald R.; Lewis, Danny H.; Dunn, Richard L.
CS South. Res. Inst., Birmingham, AL, USA
SO Report (1979), SORI-EAS-79-801, NIDR/CR-80/5; Order No. PB80-176894, 108 pp. Avail.: NTIS
From: Gov. Rep. Announce. Index (U. S.) 1980, 80(17), 3298
DT Report
LA English
CC 63-7 (Pharmaceuticals)
Section cross-reference(s): 38
AB An ***arylene*** silicone polymer, poly(tetramethylsilphenylenesiloxan edimethylsiloxane), was synthesized and formulated as a pourable, viscous, room-temp.-vulcanizing liq. for use in fabricating extraoral maxillofacial prostheses. Silphenylene polymers are colorless and will accept either intrinsic or extrinsic coloration. When mixed with conventional catalysts, the silphenylene vulcanizates can be easily and reliably cast in closed ***dental*** stone molds to give strong yet soft and pliable prostheses. Typical values for tensile strength, elongation at break, modulus at 100% elongation, and hardness are, resp., 1400 psi, 1000%, 50 psi and 35 (Shore A). The silphenylene elastomers have an excellent tactual, as well as visual resemblance to skin, and they adhere well to medical tapes and adhesives. Animal tests indicate that the dermal and ocular toxicity of the components of the silphenylene clin. kits and the cured elastomer are low. Clin. evaluation showed silphenylene to be an improved prosthetic material with the possibility of widespread use if the tear strength were improved.
ST silicone elastomer maxillofacial prosthesis; silphenylene polymer maxillofacial prosthesis
IT Prosthetic materials and Prosthetics
(silicone elastomers as, for extraoral maxillofacial use)
IT Rubber, silicone, biological studies
RL: BIOL (Biological study)
(silphenylene, for extraoral maxillofacial prostheses)

L14 ANSWER 6 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:611882 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 143:116258
TITLE: Antimicrobial solid surface materials containing or

treated with chitosan-metal complexes
INVENTOR(S): Sabesan, Subramaniam
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 27 pp., Cont.-in-part of U.S. Ser. No. 324,803.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 2005154361	A1	20050714	US 2004-999672		20041130
US 2003152632	A1	20030814	US 2002-324803		20021220
PRIORITY APPLN. INFO.:			US 2001-343321P	P	20011221
			US 2002-324803	A2	20021220

AB Materials such as plastics and fabrics are rendered antimicrobial by incorporating of or treating the surface with chitosan-metal complexes.

IT Aminoplasts
Butyl rubber, uses
Epoxy resins, uses
Fluoropolymers, uses
Ionomers
Linear low density polyethylenes
Marble, artificial
Natural rubber, uses
Plastic foams
Polyamides, uses
Polycarbonates, uses
Polyesters, uses
Polyethers, uses
Polyimides, uses
Polyolefins
Polyoxymethylenes, uses
Polyoxyphenylenes
Polysiloxanes, uses
Polysulfones, uses
Polythiophenylenes
Polyurethanes, uses
RL: POF (Polymer in formulation); USES (Uses)
(antimicrobial solid surface materials contg. or treated with chitosan-metal complexes)

IT ***Dental*** materials and ***appliances***
(dentures; antimicrobial solid surface materials contg. or treated with chitosan-metal complexes)

IT ***Dental*** materials and ***appliances***
(implants; antimicrobial solid surface materials contg. or treated with chitosan-metal complexes)

IT ***Dental*** materials and ***appliances***
(***orthodontic*** ; antimicrobial solid surface materials contg. or treated with chitosan-metal complexes)

IT Brushes
Dental materials and ***appliances***
(toothbrushes; antimicrobial solid surface materials contg. or treated with chitosan-metal complexes)

IT 79-10-7D, Acrylic acid, esters, polymers 79-41-4D, Methacrylic acid,

esters, polymers 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-08-1, Melamine resin 9003-53-6, Polystyrene 9003-56-9, ABS polymer 9010-79-1, Ethylene-propylene copolymer 9010-98-4, Polychloroprene 9011-05-6, Urea resin 25014-41-9, Polyacrylonitrile 25038-71-5, Ethylene-tetrafluoroethylene copolymer 25085-53-4, Isotactic polypropylene 25212-74-2, Poly(***phenylene*** sulfide) 26063-22-9, Syndiotactic polypropylene 106107-54-4, Butadiene-styrene block copolymer 183510-42-1, Corian
RL: POF (Polymer in formulation); USES (Uses)
(antimicrobial solid surface materials contg. or treated with chitosan-metal complexes)

L14 ANSWER 7 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:497343 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 143:32421
TITLE: **Dental** endodontic post fabricated of fiber reinforced composite material
INVENTOR(S): Karmaker, Ajit; Prasad, Arun
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 9 pp., Cont.-in-part of U.S. Ser. No. 184,353.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005123881	A1	20050609	US 2004-6219	20041206
US 6186791	B1	20010213	US 1999-280760	19990329
US 6439890	B1	20020827	US 2000-718617	20001122
US 2003027102	A1	20030206	US 2002-184353	20020626
US 6827576	B2	20041207		

AB The present invention relates to endodontic posts and pins comprising a rod fabricated of fiber-reinforced composite material. The rod comprises a plurality of frustoconical sections arranged coaxially along the longitudinal axis of the rod. Preferably the rod has consistent width along the longitudinal axis wherein the frustoconical sections each have the same tapered width and same length. The no. of frustoconical units per rod can vary. The frustoconical sections may vary in shape. Moreover, the rod may include a channel therein extending along the longitudinal axis thereof. The rod may also include one or more grooves extending along the surface thereof.

L14 ANSWER 8 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:284006 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 142:341996
TITLE: **Dental filling material** containing a thermoplastic
INVENTOR(S): Jia, Weitao; Trope, Martin; Alpert, Bruce
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 21 pp., Cont.-in-part of U.S. Ser. No. 304,371.
CODEN: USXXCO

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005069836	A1	20050331	US 2003-465416	20030618
US 2003113686	A1	20030619	US 2002-279609	20021024
CA 2503185	AA	20040506	CA 2003-2503185	20030619
WO 2004037214	A1	20040506	WO 2003-US19277	20030619
W: CA, CN, JP				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
EP 1560555	A1	20050810	EP 2003-739200	20030619
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
CN 1691929	A	20051102	CN 2003-824381	20030619
JP 2006507361	T2	20060302	JP 2005-501595	20030619
US 2005066854	A1	20050331	US 2004-914057	20040806

PRIORITY APPLN. INFO.:

US 2001-336500P	P	20011024
US 2002-279609	A2	20021024
US 2002-304371	A2	20021126
US 2003-465416	A	20030618
WO 2003-US19277	W	20030619

AB A dental filling material comprising a thermoplastic polymer. The thermoplastic polymer may be biodegradable. A bioactive substance may also be included in the filling material. The thermoplastic polymer acts as a matrix for the bioactive substance. The compn. may include other polymeric resins, fillers, plasticizers and other additives typically used in dental materials. The filling material is used for the filing of root canals. A compn. contained polycaprolactone, Bioglass, ZnO, and BiOCl.

L14 ANSWER 9 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:281384 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 142:341992
TITLE: Dental filling material comprising an inner core and outer layer of thermoplastics
INVENTOR(S): Jia, Weitao
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 25 pp., Cont.-in-part of U.S. Ser. No. 465,416.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005066854	A1	20050331	US 2004-914057	20040806
US 2003113686	A1	20030619	US 2002-279609	20021024
US 2005069836	A1	20050331	US 2003-465416	20030618
WO 2006022747	A1	20060302	WO 2004-US28653	20040902
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,				

CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI,
CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS,
MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD,
RU, TJ, TM

PRIORITY APPLN. INFO.:

US 2001-336500P	P	20011024
US 2002-279609	A2	20021024
US 2002-304371	A2	20021126
US 2003-465416	A2	20030618
US 2004-914057	A	20040806

AB A dental filling material comprising an inner core and outer layer of material disposed and surrounding the inner core, both the inner core and outer layer of material each contg. a thermoplastic polymer. The thermoplastic polymer may be biodegradable. A bioactive substance may also be included in the filling material. The thermoplastic polymer acts as a matrix for the bioactive substance. The compn. may include other polymeric resins, fillers, plasticizers and other additives typically used in dental materials. The filling material is used for the filing of root canals.

L14 ANSWER 10 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:155387 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 142:246263
TITLE: Dental adhesive composition
INVENTOR(S): Anzai, Misaki; Kawaguchi, Motoki
PATENT ASSIGNEE(S): Dentsply-Sankin K. K., Japan
SOURCE: Eur. Pat. Appl., 13 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1508321	A1	20050223	EP 2004-19518	20040817
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
JP 2005065902	A2	20050317	JP 2003-298363	20030822
US 2005054749	A1	20050310	US 2004-920358	20040818

PRIORITY APPLN. INFO.:

JP 2003-298363	A	20030822

AB A dental adhesive compn. which can quickly be hardened even in the presence of oxygen without using a radical generating agent such as a peroxide or a photopolymn. initiator, to give high bond strength, comprises a carboxylic acid having a (meth)acryloyl group and a carboxyl group, both of which are attached to an arom. ring; a bisphenol A deriv. having 2 (meth)acryloyl groups; a hydroxylalkyl (meth)acrylate; a (meth)acrylate deriv. having an acid group; and at least one polymn. initiator selected from the group consisting of arom. amines, aliph. amines, and arom. sulfinic acids, the compn. being substantially free from any radical polymn. initiator. Thus, a compn. was obtained from different

methacryloyl monomers.
IT ***Dental*** materials and ***appliances***
(adhesives; ***dental*** adhesive compn.)
IT 503-30-0D, Oxetane, phthalate and ***phenylene*** derivs. 868-77-9, 2-Hydroxyethyl methacrylate 1565-94-2, Bis-GMA 27697-00-3 30697-40-6, 2-Acryloyloxyethyl hydrogen phthalate 41637-38-1 61615-46-1, 4-Acryloyloxyethyl hydrogen phthalate 85590-00-7 86017-34-7, 4-Methacryloyloxyethyl hydrogen phthalate 88066-33-5 108362-85-2, 11-Methacryloyloxy-1,1-undecanedicarboxylic acid
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(dental adhesive compn.)
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 12 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:1036866 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 142:28225
TITLE: A prepreg for dental uses
INVENTOR(S): Vallittu, Pekka; Yli-Urpo, Antti; Lassila, Lippo; Naerhi, Timo; Waltimo, Tuomas
PATENT ASSIGNEE(S): Stick Tech Oy, Finland
SOURCE: PCT Int. Appl., 29 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004103319	A1	20041202	WO 2004-FI309	20040521
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004241757	A1	20041202	AU 2004-241757	20040521
EP 1626699	A1	20060222	EP 2004-734271	20040521
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				

PRIORITY APPLN. INFO.: FI 2003-780 A 20030523
WO 2004-FI309 W 20040521

AB The invention relates to a prepreg comprising a base part, the base part comprising fibers and a matrix, the matrix being at least partially uncured. The prepreg is characterized in that it further comprises a surface part consisting essentially of bioactive filler material, the bioactive filler material being in particle form and at least partially

and at most partially embedded in the base part. The invention also relates to a composite obtainable by curing the prepreg. The invention further relates to a mineralizing sheet for treatment of hypersensitive teeth and to the use of the prepreg and composite. The bioactive filler material is selected from, e.g., glass, glass ionomers, hydroxylapatite and the fibers can be chosen from, e.g., polyesters, polyamides, and acrylic cellulose.

IT Polyamide fibers, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(aramid; prepreg for dental uses)

IT Prosthetic materials and Prosthetics
(bioactive glass; prepreg for dental uses)

IT Polyesters, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(caprolactone-based; prepreg for dental uses)

IT Fibers
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cellulosic; prepreg for dental uses)

IT ***Dental*** materials and ***appliances***
(crowns; prepreg for ***dental*** uses)

IT ***Dental*** materials and ***appliances***
(dentures; prepreg for ***dental*** uses)

IT Polybenzoxazoles
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(fiber, poly(***benzobisoxazolediylphenylene***); prepreg for dental uses)

IT Ceramics
(fibers; prepreg for dental uses)

IT ***Dental*** materials and ***appliances***
(fillings; prepreg for ***dental*** uses)

IT Ionomers
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(glass; prepreg for dental uses)

IT ***Dental*** materials and ***appliances***
(implants; prepreg for ***dental*** uses)

IT Polyesters, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(lactide; prepreg for dental uses)

IT Synthetic polymeric fibers, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(poly(***benzobisoxazolediylphenylene***); prepreg for dental uses)

IT Tooth
(root canal; prepreg for dental uses)

IT ***Dental*** materials and ***appliances***
(root-canal fillers; prepreg for ***dental*** uses)

IT Synthetic fibers
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(silica; prepreg for dental uses)

IT 7631-86-9, Silica, biological studies 9004-34-6, Cellulose, biological studies 60871-72-9, Poly(p- ***phenylene*** -2,6-benzobisoxazole) 167304-74-7
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(fibers; prepreg for dental uses)

IT 80-62-6, Methyl methacrylate 109-16-0, Triethylene glycol dimethacrylate 868-77-9, 2-Hydroxyethyl methacrylate 1306-06-5, Hydroxylapatite 1565-94-2 9002-86-2, PVC 9011-14-7, Poly(methyl methacrylate) 24980-41-4, Polycaprolactone 25248-42-4, Polycaprolactone 25249-07-4,

Polyhydroxyproline 25322-64-9, Polyhydroxyproline 26023-30-3, Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)] 26680-10-4, Polylactide 72869-86-4, Urethane dimethacrylate
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepreg for dental uses)
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 13 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:1036865 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 142:28224
TITLE: Dental restoration kits containing a matrix band
INVENTOR(S): Vallittu, Pekka; Lassila, Lippo; Yli-Urpo, Antti; Tezvergil, Arzu
PATENT ASSIGNEE(S): Stick Tech Oy, Finland
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004103318	A1	20041202	WO 2004-FI308	20040521
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004241756	A1	20041202	AU 2004-241756	20040521
EP 1626698	A1	20060222	EP 2004-734270	20040521
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				

PRIORITY APPLN. INFO.: FI 2003-779 A 20030523
WO 2004-FI308 W 20040521

AB The invention relates to a matrix band that is characterized in that it comprises fibers and a matrix, at least a portion of the matrix being at least partially uncured. The invention further relates to a dental restoration kit, a prepreg and the use of the matrix. The matrix is selected from the group consisting of Me methacrylate, hydroxyethyl methacrylate, urethane dimethacrylate, triethylene glycol dimethacrylate.

IT ***Dental*** materials and ***appliances***
(adhesives; ***dental*** restoration kits contg. matrix band)
IT Polyamide fibers, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(aramid; dental restoration kits contg. matrix band)
IT Prosthetic materials and Prosthetics
(bioactive glass, fibers; dental restoration kits contg. matrix band)
IT ***Dental*** materials and ***appliances***
(bridges; ***dental*** restoration kits contg. matrix band)

IT Fibers
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cellulosic; dental restoration kits contg. matrix band)
IT ***Dental*** materials and ***appliances***
(composites; ***dental*** restoration kits contg. matrix band)
IT ***Dental*** materials and ***appliances***
(crowns; ***dental*** restoration kits contg. matrix band)
IT Polybenzoxazoles
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(fiber, poly(***benzobisoxazolediylphenylene***); dental restoration kits contg. matrix band)
IT ***Dental*** materials and ***appliances***
(fillings; ***dental*** restoration kits contg. matrix band)
IT Synthetic polymeric fibers, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(poly(***benzobisoxazolediylphenylene***); dental restoration kits contg. matrix band)
IT 7631-86-9, Silica, biological studies 60871-72-9, Poly(p-***phenylene*** -2,6-benzobisoxazole)
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(fibers; dental restoration kits contg. matrix band)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 17 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:473072 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 141:28742
TITLE: Method for the manufacture of dental restorations
INVENTOR(S): Prasad, Arun; Rampulla, Shannon J.; North, Denise L.; Van Vechten, Thomas C.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 21 pp., Cont.-in-part of U.S. Pat. Appl. 2002 114,723.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 2004109783	A1	20040610	US 2003-666096		20030918
US 2002009380	A1	20020124	US 2001-757916		20010110
US 6613273	B2	20030902			
US 2002114723	A1	20020822	US 2001-912179		20010724
US 6667112	B2	20031223			
PRIORITY APPLN. INFO.:			US 2000-175361P	P	20000110
			US 2000-182155P	P	20000214
			US 2000-182388P	P	20000214
			US 2000-193591P	P	20000330
			US 2000-201067P	P	20000501
			US 2001-757916	A2	20010110
			US 2001-912179	A2	20010724
			US 2000-201607P	P	20000503

AB Dental restorations are fabricated using metal powder. Preferably, the metal powder is a high fusing metal and preferably, the metal powder

comprises a non-oxidizing metal. The metal powder is applied to a die and is covered with a covering material such as a refractory die material preferably in the form of a flowable paste. A second covering material may be sprinkled or dusted onto the paste. The model is then dried prior to firing. After drying, the model is sintered to provide a high strength metal restoration. After sintering, the outer shell can be broken off easily with one's hand to expose the sintered coping.

IT Polyethers, biological studies
Polysulfones, biological studies
Polythiophenylenes
RL: TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(fiber; fabrication of dental restorations by coating and covering and sintering tooth model)

IT Ceramics
Refractories
(fibers; fabrication of dental restorations by coating and covering and sintering tooth model)

IT ***Dental*** materials and ***appliances***
(fillings; fabrication of ***dental*** restorations by coating and covering and sintering tooth model)

L14 ANSWER 23 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:874990 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 139:369777
TITLE: Self-etching dental primer adhesive containing an sulfo group-containing unsaturated monomer
INVENTOR(S): Jia, Weitao
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 8 pp., Cont.-in-part of U.S. Ser. No. 852,938, abandoned.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 2003207960	A1	20031106	US 2003-442476		20030521
US 2002019456	A1	20020214	US 2001-852938		20010510
PRIORITY APPLN. INFO.:			US 2001-852938	B2	20010510
			US 2000-203471P	P	20000511

AB A self-etching, priming dental adhesive compn. comprises an olefinically unsatd. monomer having an -SO3 functionality; a copolymerizable multi-functional (meth)acrylate adhesive; and a curing system. The self-etching, priming dental adhesive may further comprise a copolymerizable adhesion promoter contg. an acid functionality, the adhesion promoter being different from the olefinically unsatd. monomer having an -SO3 functionality and the copolymerizable multifunctional (meth)acrylate adhesive, and a solvent system in an amt. effective to dissolve the adhesive and/or the adhesion promoter. The adhesive compn. provides even further advantages over the art, as all etching, priming, and application of an adhesive can be performed in one step. A compn. contained 2.2% AMPS as etchant/primer adhesive and Bond 1 as bonding

adhesive.

IT ***Dental*** materials and ***appliances***
(adhesives; self-etching ***dental*** primer adhesive contg. an sulfo group-contg. unsatd. monomer)

IT ***Dental*** materials and ***appliances***
(primers; self-etching ***dental*** primer adhesive contg. an sulfo group-contg. unsatd. monomer)

IT 839-90-7, Tris(2-hydroxyethyl) isocyanurate 1565-94-2, Bis-GMA 3253-39-2, Bisphenol A dimethacrylate 3290-92-4, Trimethylolpropane trimethacrylate 4491-03-6, Bisphenol A diacrylate 4687-94-9, 2-Propenoic acid, (1-methylethylidene)bis[4,1- ***phenyleneoxy*** (2-hydroxy-3,1-propanediyl)] ester 5459-38-1, Glycerol triacrylate 7401-88-9, Glycerol trimethacrylate 7582-21-0, 3-Sulfopropyl methacrylate 10595-80-9, 2-Sulfoethyl methacrylate 15214-89-8 15625-89-5, Trimethylolpropane triacrylate 21838-63-1 25852-47-5, Polyethylene glycol dimethacrylate 26570-48-9, Polyethylene glycol diacrylate 26846-58-2, Pentaerythritol dimethacrylate 28497-59-8 28961-43-5 45105-30-4, 2-Propenoic acid, 4-sulfobutyl ester 50985-35-8, 4-Sulfobutyl methacrylate 52174-50-2, Glycerol diacrylate 60506-81-2, Dipentaerythritol pentaacrylate 66696-43-3 71263-74-6, 2-Propenoic acid, 2-sulfopropyl ester 72869-86-4, Urethane dimethacrylate 82200-31-5, Dipentaerythritol pentamethacrylate 82727-34-2 94108-97-1, Ditrimethylolpropane tetraacrylate 145995-98-8, 2-Sulfopropyl methacrylate 620098-35-3 620098-36-4 620098-37-5 620098-38-6 620098-39-7 620098-40-0
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(self-etching dental primer adhesive contg. an sulfo group-contg. unsatd. monomer)

L14 ANSWER 24 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:815246 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 139:312498
TITLE: Epoxy resin bonding pad for a ceramic ***orthodontic*** ***appliance***
INVENTOR(S): Kesling, Andrew C.; Devanathan, Thrumal
PATENT ASSIGNEE(S): TP Orthodontics, Inc., USA
SOURCE: Eur. Pat. Appl., 9 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1352617	A1	20031015	EP 2003-252122	20030403
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
PRIORITY APPLN. INFO.:			US 2002-120052	A 20020410

AB A light-curable methacrylate based epoxy resin bonding pad molded to a ceramic ***orthodontic*** ***appliance*** comprises an epoxy resin made of bisphenol glycidyl methacrylate, tetrahydrofurfuryl methacrylate, titanium dioxide, and camphorquinone, and the visible light transmittance through the appliance and the pad is on the order of five percent plus or minus two percent.

IT ***Dental*** materials and ***appliances***
(adhesives; epoxy resin bonding pad for a ceramic ***orthodontic***

appliance)
IT ***Dental*** materials and ***appliances***
(ceramics; epoxy resin bonding pad for a ceramic ***orthodontic***
appliance)
IT Epoxy resins, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(epoxy resin bonding pad for a ceramic ***orthodontic***
appliance)
IT ***Dental*** materials and ***appliances***
(***orthodontic*** ; epoxy resin bonding pad for a ceramic
orthodontic ***appliance***)
IT 10373-78-1, Camphorquinone
RL: CAT (Catalyst use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(epoxy resin bonding pad for a ceramic ***orthodontic***
appliance)
IT 1344-28-1, Alumina, biological studies 13463-67-7, Titania, biological studies
RL: DEV (Device component use); MOA (Modifier or additive use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(epoxy resin bonding pad for a ceramic ***orthodontic***
appliance)
IT 123864-12-0, 2-Propenoic acid, 2-methyl-, (1-methylethylidene)bis[4,1-***phenyleneoxy*** (2-hydroxy-3,1-propanediyl)] ester, polymer with (tetrahydro-2-furanyl)methyl 2-methyl-2-Propenoate
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(epoxy resin bonding pad for a ceramic ***orthodontic***
appliance)
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 25 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:585470 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 139:138794
TITLE: Prefabricated ***components*** for ***dental*** ***appliances***
INVENTOR(S): Freilich, Martin A.; Meiers, Jonathan C.; Goldberg, A. Jon
PATENT ASSIGNEE(S): University of Connecticut, USA
SOURCE: U.S., 16 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6599125	B1	20030729	US 2000-645951	20000825
PRIORITY APPLN. INFO.:			US 1999-151003P	P 19990827

AB Ready-to-use preshaped, prefabricated cured components and hybrid components are prepd. in a variety of shapes and sizes to be used in the fabrication of ***dental*** ***appliances*** . Preferably the structural components are fabricated of a fiber-reinforced composite material comprising fibers impregnated with a polymeric matrix. The polymeric matrix is partially or fully cured to the point of sufficient

hardness to provide a ready-to-use structural component for use in the fabrication of ***dental*** ***appliances*** , such as ***orthodontic*** retainers, bridges, space maintainers, tooth replacement appliances, splints, crowns, partial crowns, dentures, posts, teeth, jackets, inlays, onlays, facings, veneers, facets, implants, cylinders, abutments, pins and connectors. Hybrid components comprise two or more sections whereby at least one section is cured and at least one section is uncured to facilitate indirect and direct application of the ***component*** in the fabrication of a ***dental*** restoration.

IT Polycarbonates, biological studies
RL: POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(acrylic, matrix contg.; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)

IT Polyamide fibers, biological studies
RL: POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(aramid; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)

IT Polyesters, biological studies
RL: POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(arom., matrix contg.; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)

IT Borosilicate glasses
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(barium borosilicate, filler; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)

IT ***Dental*** materials and ***appliances***
(bridges; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)

IT ***Dental*** materials and ***appliances***
(composites; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)

IT ***Dental*** materials and ***appliances***
(crowns; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)

IT ***Dental*** materials and ***appliances***
(dentures; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)

IT Vinyl compounds, biological studies
RL: POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ester group-contg., polymers, matrix contg.; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)

IT Silicate glasses
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(filler; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)

IT Borosilicates
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(fillers; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)

IT ***Dental*** materials and ***appliances***
(implants; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)

IT ***Dental*** materials and ***appliances***

(inlays; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)
IT Antioxidants
Polymerization catalysts
UV stabilizers
(matrix contg.; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)
IT Epoxy resins, biological studies
Polyamides, biological studies
Polycarbonates, biological studies
Polyesters, biological studies
Polyimides, biological studies
Polyolefins
Polyoxymethylenes, biological studies
Polysulfones, biological studies
Polythiophenylenes
Polyurethanes, biological studies
RL: POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(matrix contg.; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)
IT Polyurethanes, biological studies
RL: POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(methacrylates, matrix contg.; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)
IT ***Dental*** materials and ***appliances***
(onlays; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)
IT ***Dental*** materials and ***appliances***
(***orthodontic*** ; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)
IT Crosslinking
Nonwoven fabrics
Polymerization
Textiles
(prefabricated fiber-reinforced composite for ***dental*** ***appliances***)
IT Polyamide fibers, biological studies
Polyester fibers, biological studies
RL: POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prefabricated fiber-reinforced composite for ***dental*** ***appliances***)
IT Carbon fibers, biological studies
Glass fibers, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prefabricated fiber-reinforced composite for ***dental*** ***appliances***)
IT Borosilicate glasses
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(strontium borosilicate, filler; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)
IT ***Dental*** materials and ***appliances***
(veneers, coatings; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)
IT 1314-23-4, Zirconia, biological studies 1332-29-2, Tin oxide

1344-28-1, Alumina, biological studies 7631-86-9, Silica, biological studies 10103-46-5, Dynafos 12627-14-4, Lithium silicate 12650-28-1, Barium silicate 12712-63-9, Strontium silicate 13463-67-7, Titania, biological studies 14808-60-7, Quartz, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(filler; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)

IT 109-16-0, Triethylene glycol dimethacrylate 1565-94-2, 2,2-Bis[4-(3-methacryloxy-2-hydroxypropoxy)phenyl]propane 9003-53-6, Polystyrene 9003-54-7, Acrylonitrile-styrene copolymer 9003-56-9, ABS (polymer) 25852-47-5, Polyethylene glycol dimethacrylate 28654-11-7, Bisphenol A-glycidyl methacrylate polymer 41637-38-1, Ethoxylated bisphenol A dimethacrylate
RL: POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(matrix contg.; prefabricated fiber-reinforced composite for ***dental*** ***appliances***)

IT 7782-42-5, Graphite, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prefabricated fiber-reinforced composite for ***dental*** ***appliances***)

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 26 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:585233 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 139:122844
TITLE: Composite materials having inorganic coating layers on organic polymer substrates, their manufacture, and organic polymer substrates therefor
INVENTOR(S): Nakao, Junko; Sakaguchi, Yoshimitsu; Kobase, Shigeji; Otsuki, Chikara; Miyazaki, Toshiki; Tanihara, Masao
PATENT ASSIGNEE(S): Toyobo Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003213026	A2	20030730	JP 2002-17250	20020125

PRIORITY APPLN. INFO.: JP 2002-17250 20020125

AB The org. polymer substrates contain water-sol. alkali metal salts and/or alk. earth metal salts and release alkali metal ions and/or alk. earth metal ions when immersed in pure water at 35.degree. for 12 h to cause .gtoreq.0.5 increase in pH of 1 mL water per 1 cm2 surface area. The composite materials, useful for artificial bone, artificial teeth, and other functional materials, are manufd. by immersing the org. polymer substrates in solns. contg. cations and anions to form inorg. compd. layers mainly comprising cations and anions. Glass powder contg. CaO and MgO was dispersed in 1,1,1,3,3,3-hexafluoro-2-propanol soln. contg. T 810 (nylon), and the dispersion was applied on a glass plate and dried to form a film, which was immersed in simulated body fluid (SBF; contg. Na+ 142.0, K+ 5.0, Mg2+ 1.5, Ca2+ 2.5, Cl- 147.8, HCO3- 4.2, HPO42- 1.0, and SO42- 0.5 mM) for 7 days to give an apatite-coated composite material.

IT Bone
(artificial; manuf. of composites having inorg. coating layers contg. cations and anions on org. polymer substrates contg. oxide glass)
IT Glass, biological studies
RL: TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(calcium magnesium oxide; manuf. of composites having inorg. coating layers contg. cations and anions on org. polymer substrates contg. oxide glass)
IT Prosthetic materials and Prosthetics
(composites; manuf. of composites having inorg. coating layers contg. cations and anions on org. polymer substrates contg. oxide glass)
IT ***Dental*** materials and ***appliances***
(dentures; manuf. of composites having inorg. coating layers contg. cations and anions on org. polymer substrates contg. oxide glass)
IT Alkali metal oxides
Alkaline earth oxides
RL: TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(glass contg.; manuf. of composites having inorg. coating layers contg. cations and anions on org. polymer substrates contg. oxide glass)
IT Plastic films
(manuf. of composites having inorg. coating layers contg. cations and anions on org. polymer substrates contg. oxide glass)
IT Polyamides, biological studies
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(manuf. of composites having inorg. coating layers contg. cations and anions on org. polymer substrates contg. oxide glass)
IT Glass powders
Polyesters, biological studies
RL: TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(manuf. of composites having inorg. coating layers contg. cations and anions on org. polymer substrates contg. oxide glass)
IT Glass, biological studies
RL: TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sodium oxide; manuf. of composites having inorg. coating layers contg. cations and anions on org. polymer substrates contg. oxide glass)
IT 1305-78-8, Calcia, biological studies 1309-48-4, Magnesia, biological studies 1313-59-3, Sodium oxide, biological studies 1313-96-8, Niobium oxide 1314-23-4, Zirconia, biological studies 1314-61-0, Tantalum oxide 7631-86-9, Silica, biological studies 13463-67-7, Titania, biological studies
RL: TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(glass contg.; manuf. of composites having inorg. coating layers contg. cations and anions on org. polymer substrates contg. oxide glass)
IT 25928-79-4P, 3,5-Diaminobenzoic acid-isophthaloyl chloride-m-***phenylenediamine*** copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(manuf. of composites having inorg. coating layers contg. cations and anions on org. polymer substrates contg. oxide glass)

IT 1306-06-5P, Hydroxyapatite 10103-46-5P, Calcium phosphate
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(manuf. of composites having inorg. coating layers contg. cations and anions on org. polymer substrates contg. oxide glass)

IT 25038-54-4, T 810, biological studies 25038-59-9, Poly(ethylene terephthalate), biological studies
RL: TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(manuf. of composites having inorg. coating layers contg. cations and anions on org. polymer substrates contg. oxide glass)

L14 ANSWER 27 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:570771 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 139:122477
TITLE: Ternary photoinitiator system for cationically polymerizable resins
INVENTOR(S): Dede, Karsten; Klettke, Thomas; Luchterhandt, Thomas; Oxman, Joel D.
PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
SOURCE: PCT Int. Appl., 49 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003059295	A1	20030724	WO 2003-US522	20030108
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003166737	A1	20030904	US 2002-50218	20020115
US 6765036	B2	20040720		
CA 2471776	AA	20030724	CA 2003-2471776	20030108
AU 2003210464	A1	20030730	AU 2003-210464	20030108
EP 1465579	A1	20041013	EP 2003-729594	20030108
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1615115	A	20050511	CN 2003-802228	20030108
JP 2005523348	T2	20050804	JP 2003-559460	20030108
PRIORITY APPLN. INFO.:			US 2002-50218 A	20020115
			WO 2003-US522 W	20030108

OTHER SOURCE(S): MARPAT 139:122477
AB Photopolymerizable compns. comprise a cationically polymerizable resin and a photoinitiator system comprising (i) an iodonium salt, (ii) a visible light sensitizer, and (iii) an electron donor compd. having an oxidn. potential less than that of 1,4-dimethoxybenzene when measured vs. a SCE,

where the photoinitiator system has a photoinduced potential of less than that of 3-dimethylaminobenzoic acid in a std. soln. of 2.9 .times. 10-5 moles/g di-Ph iodonium hexafluoroantimonate and 1.5 .times. 10-5 moles/g camphorquinone in 2-butanone. The compns. polymerize on exposure to light in the visible spectrum and are useful in a variety of applications, including dental adhesives and dental composites.

IT ***Dental*** materials and ***appliances***
(adhesives; photoinitiator system of iodonium salt, light sensitizer, and polycyclic electron donor for cationically polymerizable epoxy resins)

IT ***Dental*** materials and ***appliances***
(composites; photoinitiator system of iodonium salt, light sensitizer, and polycyclic electron donor for cationically polymerizable epoxy resins)

IT Adhesives
Coating materials
Inks
(photocurable; photoinitiator system of iodonium salt, light sensitizer, and polycyclic electron donor for cationically polymerizable epoxy resins)

IT Epoxy resins, biological studies
RL: COS (Cosmetic use); CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); BIOL (Biological study); PROC (Process); USES (Uses)
(photoinitiator system of iodonium salt, light sensitizer, and polycyclic electron donor for cationically polymerizable epoxy resins)

IT Polymerization catalysts
(photopolymn.; photoinitiator system of iodonium salt, light sensitizer, and polycyclic electron donor for cationically polymerizable epoxy resins)

IT 53-70-3, 1,2,5,6-Dibenzanthracene 56-55-3, 1,2-Benzanthracene 57-97-6 83-32-9, Acenaphthene 120-12-7, Anthracene, uses 129-00-0, Pyrene, uses 135-48-8, Pentacene 191-48-0, Decacyclene 259-79-0, ***Biphenylene*** 275-51-4, Azulene 571-58-4, 1,4-Dimethylnaphthalene 602-55-1, 9-Phenylanthracene 779-02-2, 9-Methylanthracene 781-43-1, 9,10-Dimethylanthracene 1484-12-4, N-Methylcarbazole 1499-10-1, 9,10-Diphenylanthracene 2245-38-7, 2,3,5-Trimethylnaphthalene 2444-68-0, 9-Vinylanthracene 52251-71-5, 2-Ethylanthracene 52754-92-4, Diphenyliodonium hexafluoroantimonate
RL: CAT (Catalyst use); USES (Uses)
(electron donor; photoinitiator system of iodonium salt, light sensitizer, and polycyclic electron donor for cationically polymerizable epoxy resins)

IT 10373-78-1, Camphorquinone 121239-75-6, 4-Octyloxyphenyl phenyliodonium hexafluoroantimonate 139301-16-9 178233-72-2
RL: CAT (Catalyst use); USES (Uses)
(photoinitiator system of iodonium salt, light sensitizer, and polycyclic electron donor for cationically polymerizable epoxy resins)

IT 25085-98-7, UVR 6105 121225-98-7, 2,4,6,8-Tetrakis(2,1-ethandiyl-3,4-epoxycyclohexyl)-2,4,6,8-tetramethylcyclo-tetrasiloxane 141446-51-7, 1,3,5,7,9-Pentakis(2,1-ethandiyl-3,4-epoxycyclohexyl)-1,3,5,7,9-pentamethylcyclopentasiloxane
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(photoinitiator system of iodonium salt, light sensitizer, and polycyclic electron donor for cationically polymerizable epoxy resins)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 29 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:473098 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 139:41890
TITLE: Dental root canal filling materials
INVENTOR(S): Jia, Weitao; Alpert, Bruce
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 13 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003113686	A1	20030619	US 2002-279609	20021024
US 2005069836	A1	20050331	US 2003-465416	20030618
CA 2503185	AA	20040506	CA 2003-2503185	20030619
WO 2004037214	A1	20040506	WO 2003-US19277	20030619
W: CA, CN, JP				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
EP 1560555	A1	20050810	EP 2003-739200	20030619
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
CN 1691929	A	20051102	CN 2003-824381	20030619
JP 2006507361	T2	20060302	JP 2005-501595	20030619
US 2005066854	A1	20050331	US 2004-914057	20040806

PRIORITY APPLN. INFO.:		
US 2001-336500P	P	20011024
US 2002-279609	A2	20021024
US 2002-304371	A2	20021126
US 2003-465416	A	20030618
WO 2003-US19277	W	20030619

AB An endodontic filling material comprises a biodegradable thermoplastic polymer. A bioactive substance may also be included in the filling material. The thermoplastic polymer acts as a matrix for the bioactive substance. The compn. may include other polymeric resins, fillers, plasticizers and other additives typically used in dental materials. The filling material is used for the filling of root canals. A compn. comprising polycaprolactone 40, a bioactive glass having a compn. similar to Bioglass 30, ZnO 20, and BaSO4 10%. The method of forming the compn. involved heating the polycaprolactone at about 70.degree. to a softened state. The remaining ingredients were then added and mixed under the action of kneading, pressing, or mixing to blend into the polycaprolactone completely to form a homogeneous dough. The compd. was then ready for application to the carrier device.

L14 ANSWER 30 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:4785 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 138:61389
TITLE: Sterilization of polymeric bioactive coatings for medical goods

INVENTOR(S): Timm, Debra A.; Hui, Henry K.; Roller, Mark B.; Melican, Mora C.; Hossainy, Syed
PATENT ASSIGNEE(S): Ethicon, Inc., USA
SOURCE: Eur. Pat. Appl., 13 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1270018	A1	20030102	EP 2002-254563	20020628
EP 1270018	B1	20050413		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2003175408	A1	20030918	US 2001-897657	20010629
US 6787179	B2	20040907		
AU 2002048812	A5	20030102	AU 2002-48812	20020617
CA 2391899	AA	20021229	CA 2002-2391899	20020627
JP 2003047645	A2	20030218	JP 2002-191227	20020628
EP 1559434	A1	20050803	EP 2005-75683	20020628
R: DE, ES, FR, GB, IT				
ES 2239701	T3	20051001	ES 2002-2254563	20020628

PRIORITY APPLN. INFO.: US 2001-897657 A 20010629
EP 2002-254563 A3 20020628

AB The invention provides a method for single-step surface modification, grafting and sterilization for bioactive coating on materials and biomaterials used in medical devices, such as catheters, tissue engineering scaffolds, or drug delivery carrier materials. This may include any medical device or implantable that could benefit from improved antithrombogenic and biocompatible surfaces. Other relevant device examples may include heparin or urokinase coated stents to reduce clotting and restenosis, dental or ophthamol. implants. These materials may be comprised of a variety of polymeric compns. such as, polyurethane, polyester, polytetrafluoroethylene, polyethylene, polymethyl methacrylate, polyHEMA, polyvinyl alc., polysiloxanes, polylactic or glycolic acids, polycaprolactone. The substrates can also be metal, ceramics or biol. derived materials. For the sterilization process, PEG incorporation (O/C) and heparin grafting (S) were higher compared to other processes. The coating soln. was a 1:1 diln. of PEG Acrylate (1.9%) + heparin (2.85%) + hyaluronic acid (0.5%) in soln. of 0.5% Tween H2O.

L14 ANSWER 31 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:964148 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 138:44755
TITLE: A prepreg composite containing synthetic fibers for ***dental*** and medical ***devices***
INVENTOR(S): Vallittu, Pekka; Lassila, Lippo; Yli-Urpo, Antti
PATENT ASSIGNEE(S): Stick Tech Oy, Finland
SOURCE: PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2002100355	A1	20021219	WO 2002-FI508		20020612
W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG					
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
CA 2447834	AA	20021219	CA 2002-2447834		20020612
EP 1401378	A1	20040331	EP 2002-743279		20020612
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR					
JP 2005502492	T2	20050127	JP 2003-503181		20020612
US 2004166304	A1	20040826	US 2003-479809		20031205
PRIORITY APPLN. INFO.:			FI 2001-1233	A	20010612
			US 2001-297268P	P	20010612
			WO 2002-FI508	W	20020612

AB The invention relates to a prepreg comprising fibers and a curable matrix, said prepreg being characterized in that it has a core and a surface part encasing said core wherein the matrix of the core and of the surface part are made of a same material and in that the proportion of the matrix to the fibers is higher in the core than in the surface part. The invention also relates to a composite obtainable from said prepreg as well as to the use of said composite or prepreg. A prepreg is prepd. contg. bis_GMA, PMMA, MMA, camphorquinone, DMAEMA, and long continuous E glass fibers.

L14 ANSWER 32 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER:	2002:875353 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER:	138:309202
TITLE:	Mutagenic activity of structurally related oxiranes and siloranes in Salmonella typhimurium
AUTHOR(S):	Schweikl, Helmut; Schmalz, Gottfried; Weinmann, Wolfgang
CORPORATE SOURCE:	Department of Operative Dentistry and Periodontology, University of Regensburg, Regensburg, D-93042, Germany
SOURCE:	Mutation Research (2002), 521(1-2), 19-27 CODEN: MUREAV; ISSN: 0027-5107
PUBLISHER:	Elsevier Science B.V.
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB Ring-opening mols. like oxiranes (epoxides) maybe suitable for the development of non-shrinking dental composite materials. Since oxiranes are reactive mols., they can cause adverse biol. effects in living organisms. The introduction of siloranes, a merger of silane and oxirane, may solve this problem. Here, new oxiranes and siloranes were analyzed for the induction of mutations in Salmonella typhimurium (TA97a, TA98, TA100, and TA102), and a reactive oxirane mol. served as a ref. This chem., epoxy cyclohexyl methyl-epoxy cyclohexane carboxylate (Est-Ep) tested pos. in S. typhimurium TA100. The nos. of mutants were about 3-10-fold higher than controls in the presence of a metabolically active

S9 fraction isolated from rat liver. Only a weak mutagenic effect was obsd. after direct testing (without S9). Di(cyclohexene-epoxide methyl)ether (Eth-Ep) also caused a slight increase of mutant nos. in TA100 both in the presence and absence of S9. In contrast, no effects were detected with the large oxirane mols., 2,2-bis(4,1-***phenylenoxy*** -3,1-propanediyl-3-oxatricyclo [3.2.1.02,4]octylcarboxy) propylidene (Nor-BP-Ep) and 2,2-bis(4,1-***phenylenoxy*** -3,1-propanediyl-3,4-epoxycyclo-hexylcarboxylic acid) propylidene (Est-BP-Ep). As to the siloranes, 1,4-bis(2,3-epoxypropyloxypropyl-dimethylsilyl)-benzene (Phen-Glyc) was a direct mutagen in S. typhimurium TA100 and TA102. This weak but dose-related increase of revertants was even enhanced by S9. Other siloranes, like di-3,4-epoxy cyclohexylmethyl-dimethyl-silane (DiMe-Sil), methyl-bis[2-(7-oxabicyclo[4.1.0]hept-3-yl)ethyl]phenyl silane (Ph-Sil), and 1,3,5,7-tetrakis(Et cyclohexane epoxy)-1,3,5,7-tetramethyl-cyclotetrasiloxane (TET-Sil) tested neg. in all S. typhimurium strains.

L14 ANSWER 33 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:717069 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 137:253056
TITLE: Silicate mineral-containing solid nanocomposites for dental applications
INVENTOR(S): Stadtmueller, Lisa
PATENT ASSIGNEE(S): Dental Technologies, Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 9 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 2002132875	A1	20020919	US 2001-34807		20011228
PRIORITY APPLN. INFO.:			US 2000-259045P	P	20001229

AB The present invention provides for nanocomposite compns. contg. silicate platelets, method of prepn. and method of using a nanocomposite in dental applications. The use of the nanocomposite in dental applications substantially influences the dental products strength, durability, longevity, barrier properties and other desirable phys. characteristics. For example, a self-cure dental filling composite contained two pastes (a base paste and a catalyst paste) mixed in a 1:1 (wt./wt.) ratio to forma peroxide/amine initiated polymd. tooth filling composite. The base paste contained 10-75% blend of methacrylate monomers, 0-3% N,N-bis(2-hydroxyethyl)-p-toludine, 0-3% 2,4-dihydroxy benzophenone, barium glass filler (multimicron size) 5-95%, color pigments 0-3%, titanium dioxide 0-3%, fumed silica 0-10%, and montmorillonite clay treated with octadecyl tri-Me amine 1-20%. The catalyst paste contained 10-75% blend of methacrylate monomers, 0-3% 2,6-di-tert-butyl-4-methylphenol benzoyl peroxide 0-3%, quartz glass filler (micron sized) 5-95%, aluminum oxide 0-10%, fumed silica 0-10%, and montmorillonite clay treated with octadecyl tri-Me amine 1-20%.

L14 ANSWER 35 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:286729 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 136:295969
TITLE: Polyamide-calcium phosphate compound composites and their manufacture
INVENTOR(S): Sakaguchi, Yoshimitsu; Kadono, Hiroshi; Kobase, Shigeji; Tanihara, Masao; Otsuki, Chikara; Miyazaki, Toshiki
PATENT ASSIGNEE(S): Toyobo Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002114859	A2	20020416	JP 2000-307783	20001006
PRIORITY APPLN. INFO.:			JP 2000-307783	20001006

AB The composites, useful for biocompatible medical materials, filters, etc., comprise Ca compd.-contg. polyamide substrates and Ca phosphate coating layers. Thus, poly(m- ***phenylene*** isophthalamide) was mixed with CaCl2, made into a film, and soaked in simulated body fluid to form apatite layer on the surface.

IT Bone
(artificial; polyamide-calcium phosphate compd. composites for)

IT Silicate glasses
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(calcium magnesium silicate, calcium phosphates from; polyamide-calcium phosphate compd. composites)

IT ***Dental*** materials and ***appliances***
(dentures; polyamide-calcium phosphate compd. composites for)

IT 24938-60-1, Poly(m- ***phenylene*** isophthalamide) 25035-33-0, Poly(m- ***phenylene*** isophthalamide) 25038-54-4, T 810, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyamide-calcium phosphate compd. composites)

L14 ANSWER 37 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:87846 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 137:186165
TITLE: Acrylate-terminated macromonomers by Michael addition
AUTHOR(S): Muh, Ekkehard; Weickmann, Hans; Klee, Joachim E.; Frey, Holger; Mulhaupt, Rolf
CORPORATE SOURCE: Institut fur Makromolekulare Chemie und Freiburger Materialforschungszentrum der Albert-Ludwigs-Universitat, Freiburg i. Br., D-79104, Germany
SOURCE: Macromolecular Chemistry and Physics (2001), 202(18), 3484-3489
CODEN: MCHPES; ISSN: 1022-1352
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A series of diacrylate macromonomers bearing alkoxysilyl units was prepd. by convenient Michael addn. of aminopropylmethyldiethoxysilane to

1,2-ethylene glycol diacrylate (EGDA), p- ***phenylene*** diacrylate (PDA) and 1,4-cyclohexanediol diacrylate (CHDA). The resulting macromonomers have been characterized in detail by NMR spectroscopy, vapor pressure osmometry (VPO) measurements and fast-atom bombardment mass spectroscopy (FAB-MS). Av. mol. wts. Mn ranged between 530 and 1300 g.mol-1 (VPO). FAB-MS and size exclusion chromatog. (SEC) showed the formation of a homologous macromonomer series. Viscosities of the liq. monomers are relatively low, ranging from 0.082 to 8.30 Pa.s. This renders these compds. interesting as reactive diluents in dental composite formulations. Upon polymn. of the macromonomers, low volumetric shrinkage occurred, which was in the range of .DELTA.V = 2.4 and 3.9 vol.% at high conversion. Crosslinking was monitored by photo-differential scanning calorimetry (photo-DSC). Furthermore, composites were prepd. by mixing 2,2-bis-[p-(2-hydroxy-3-methacryloxypropoxy)-phenyl]propane (Bis-GMA) with the new macromonomers, initiator and glass filler. The composites showed compressive strengths up to 244 MPa, flexural strengths from 22 to 42 MPa and Young's moduli between 870 and 3070 MPa. The composite materials exhibited low vol. shrinkage of about 2 vol.% in comparison to over 3 vol.% shrinkage of com. available composites.

L14 ANSWER 38 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:875249 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 136:11263
TITLE: Antimicrobial polymer-based dental compositions and method
INVENTOR(S): Jia, Weitao
PATENT ASSIGNEE(S): Jeneric/pentron Incorporated, USA
SOURCE: U.S., 13 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6326417	B1	20011204	US 1999-422783	19991021

PRIORITY APPLN. INFO.: US 1999-422783 19991021

AB An antimicrobial dental restorative compn., including bonding agents, adhesives, base liners, luting cements or cavity filling material, comprises (i) polymerizable unsatd. monomers, oligomers, prepolymers with or without acid groups or their combinations, and (ii) an antimicrobial agent selected from salicylic acid, 4-aminosalicylic acid, esters of salicylic acid, esters of 4-aminosalicylic acid, and sulfanilamide, in an amt. of about 0.1-5% based on the total wt. of the compn., wherein the water sorption of the cured dental restorative compn. is < about 50 g/mm3/wk. The polymerizable component is selected from the group consisting of polymerizable amides, esters, olefins, acrylates, methacrylates, urethanes, vinyl esters, epoxy-based materials, styrene, styrene acrylonitrile, sulfones, acetals, carbonates, ***phenylene*** ethers, ***phenylene*** sulfides, and their combinations. The antimicrobial dental compn. prevents secondary decay, greatly enhances sustained antimicrobial activity for a longer period of time with min. harm to the living structure and surrounding tissues and without affecting the compn. restorative properties. For example, a dental compn. was prepd. contg. (parts by wt.) 2-HEMA 20, PCDMA 15, camphorquinone 0.2,

DEAMA 0.2, BHT 0.01, sulfanilamide 0.5, acetone 55, and water 6. The compn. showed dentin bonding strength of 22.2 and 18.7 MPa for etched and non-etched dentin, resp.

L14 ANSWER 39 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:863409 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 135:376846
TITLE: Mass production of dental restorations by solid free-form fabrication methods
INVENTOR(S): Brodkin, Dmitri; Panzera, Carlino; Panzera, Paul
PATENT ASSIGNEE(S): Jeneric/pentron, Inc., USA
SOURCE: U.S., 7 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6322728	B1	20011127	US 1999-350604	19990709
US 2002064745	A1	20020530	US 2001-946413	20010905
US 6821462	B2	20041123		
US 2002033548	A1	20020321	US 2001-972351	20011005
US 6994549	B2	20060207		
US 2002125592	A1	20020912	US 2001-53430	20011022
US 6808659	B2	20041026		
US 2004262797	A1	20041230	US 2004-871993	20040618
US 2005023710	A1	20050203	US 2004-874077	20040622
US 2005110177	A1	20050526	US 2004-982656	20041104

PRIORITY APPLN. INFO.:

US 1998-92432P	P	19980710
US 1998-97216P	P	19980820
US 1999-350604	A2	19990709
US 1999-376921	A3	19990818
US 2001-946413	A2	20010905
US 2001-53430	A3	20011022
US 2001-27017	A2	20011218
US 2003-474166P	P	20030529
US 2004-857482	A2	20040528

AB Solid free-form fabrication techniques such as fused deposition modeling and three-dimensional printing are used to create a dental restoration. Three-dimensional printing includes ink-jet printing a binder into selected areas of sequentially deposited layers of powder. Each layer is created by spreading a thin layer of powder over the surface of a powder bed. Instructions for each layer may be derived directly from a computer-assisted design (CAD) representation of the restoration. The area to be printed is obtained by computing the area of intersection between the desired plane and the CAD representation of the object. All the layers required for an aesthetically sound restoration can be deposited concurrently slice after slice and sintered/cured simultaneously. The amt. of green body oversize is equiv. to the amt. of shrinkage which occurs during sintering or curing. While the layers become hardened or at least partially hardened as each of the layers is laid down, once the desired final shaped configuration is achieved and the layering process is complete, in some applications it may be desirable that the form and its contents be heated or cured at a suitably selected

temp. to further promote binding of the powder particles.
IT Apatite-group minerals
Borosilicates
Carbon fibers, biological studies
Glass fibers, biological studies
Polyamides, biological studies
Polycarbonates, biological studies
Polyesters, biological studies
Polyimides, biological studies
Polyolefins
Polyoxymethylenes, biological studies
Polysulfones, biological studies
Polythiophenylenes
Polyurethanes, biological studies
Silicate glasses
Waxes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(mass prodn. of dental restorations by solid free-form fabrication method)
IT ***Dental*** materials and ***appliances***
(onlays; mass prodn. of ***dental*** restorations by solid free-form fabrication method)
IT 79-10-7D, Acrylic acid, derivs., polymers 1302-67-6, Spinel 1302-93-8, Mullite 1306-05-4, Fluorapatite (Ca5F(PO4)3) 1306-06-5, Hydroxyapatite 1314-23-4, Zirconia, biological studies 1332-29-2, Tin oxide 1344-28-1, Alumina, biological studies 7631-86-9, Silica, biological studies 7758-87-4, Tricalcium phosphate 9003-56-9, ABS polymer 10103-46-5, Calcium phosphate 12627-14-4, Lithium silicate 12650-28-1, Barium silicate 12712-63-9, Strontium silicate 13463-67-7, Titania, biological studies 14808-60-7, Quartz, biological studies
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(mass prodn. of dental restorations by solid free-form fabrication method)
REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 40 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:688160 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 136:79257
TITLE: Measurement of estrogenic activity of chemicals for the development of new dental polymers
AUTHOR(S): Hashimoto, Y.; Moriguchi, Y.; Oshima, H.; Kawaguchi, M.; Miyazaki, K.; Nakamura, M.
CORPORATE SOURCE: Department of Biomaterials, Osaka Dental University, Hirakata, Osaka, 573-1121, Japan
SOURCE: Toxicology in Vitro (2001), 15(4/5), 421-425
CODEN: TIVIEQ; ISSN: 0887-2333
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The estrogenic activities of 13 Bisphenol-A (BPA)-related chems. for development of new polymers by three in vitro bioassay have been examd. in the presence and absence of a post-mitochondrial metabolizing system (S9

mix). BPA, Bisphenol-B (BPB), Bisphenol-F (BPF), Bisphenol-S (BPS), 4,4-ethylidenebisphenol (BP1), 4,4-dihydroxybenzophenone (BP2), 2,2-bis (4-hydroxyphenyl)-hexafluoropropane (BP3), 4,4-(1,4-***phenylenediisopropylidene***) bisphenol (BP4), 4,4-cyclohexylidenebisphenol (BP5), 4,4-dihydroxydiphenyl ether (BP6), 4-hydroxydiphenylmethane (BP7), 4-cumylphenol (BP8) and 4,4-dihydroxydiphenyl sulfide (BP9) were each dild. with DMSO to final concns. ranging from 10-7 to 10-3 m in both the yeast two-hybrid system and in a fluorescence polarization system. Dilns. of 10-9 to 10-4 m were assayed in the E-screen, resp. Except for BPS and BP4, the chems. tested showed estrogenic activity in the absence of cut S9 mix prepn. and the activity was enhanced with S9 mix. BPS, which was initially neg., was active with S9 mix in the yeast two-hybrid system. BP2 was weakly estrogenic with or without S9 mix. Chems. other than BP2 were pos. in the competition binding assay. All chems. tested showed estrogenic activity in the E-screen, the concn. level of which was 104 times lower than those of the other two assays.

L14 ANSWER 41 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:526124 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 135:108125
TITLE: Polymerizable preparations based on silicon-containing epoxides
INVENTOR(S): Klettke, Thomas; Weinmann, Wolfgang
PATENT ASSIGNEE(S): 3M Espe A.-G., Germany
SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001051540	A2	20010719	WO 2001-EP388	20010115
WO 2001051540	A3	20020117		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 10001228	A1	20010726	DE 2000-10001228	20000113
AU 2001025159	A5	20010724	AU 2001-25159	20010115
AU 781055	B2	20050505		
EP 1246859	A2	20021009	EP 2001-900445	20010115
EP 1246859	B1	20060726		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2003519705	T2	20030624	JP 2001-551124	20010115
AT 334154	E	20060815	AT 2001-900445	20010115
US 2003035899	A1	20030220	US 2002-169911	20020711
US 6779656	B2	20040824		

PRIORITY APPLN. INFO.: DE 2000-10001228 A 20000113
WO 2001-EP388 W 20010115

AB The polymerizable prepns., useful as coatings, adhesives and dental fillings, contain: (a) 3-80 wt.% of .gtoreq.1 compd. contg. 2-6 epoxycyclohexyl groups linked through spacer groups to a central core which is a C1-15 residue in which .gtoreq.1 C is replaced by (un)substituted Si, whereby the (av.) mol. wt. of the epoxide compd(s). ranges from 250 to 1000; (b) 0-80 wt.% of (an)other epoxy resin(s); (c) 3-85 wt.% filler(s); (d) 0.01-25 wt.% of initiators, retarders and/or accelerators; and (e) 0-25 wt.% auxiliary agents. Thus, a compn. comprising bis[2-(3,4-epoxycyclohexyl)ethyl]methylphenylsilane 21.6, 1,4-***phenylenebis*** [[2-(3,4-epoxycyclohexyl)ethyl]dimethylsilane] 14.4, cumyltolyliodonium tetrakis(pentafluorophenyl)borate 2.1, 2-butoxyethyl 4-(dimethylamino)benzoate 0.3, camphorquinone 0.6, and glass beads 61.0 parts gave a sample with flexural strength 89 MPa, water absorption 10.8 .mu.g/mm3, and vol. shrinkage on curing 1.7%.

L14 ANSWER 42 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:489527 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 135:62102
TITLE: Modifying polymeric material
INVENTOR(S): Kanazawa, Hitoshi
PATENT ASSIGNEE(S): Japan
SOURCE: PCT Int. Appl., 53 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001048065	A1	20010705	WO 2000-JP9420	20001228
W: CN, JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
EP 1164157	A1	20011219	EP 2000-987802	20001228
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 3729130	B2	20051221	JP 2001-548599	20001228
US 2003087982	A1	20030508	US 2001-914441	20010827
US 6830782	B2	20041214		

PRIORITY APPLN. INFO.: JP 1999-375055 A 19991228
WO 2000-JP9420 W 20001228

AB Modifying of polymer material comprises activation and treatment with a hydrophilic polymer, and/or monomer grafting. Thus, polypropylene nonwoven textile 0.3 g was treated by ozone for 20 min., then by poly(vinyl alc.) 1 g for 2 h at 50.degree., showing hydrophilicity 1060, 950 and 820% after 1, 2 and 3 times washing, resp., v.s. 760, 460 and 330 for a sample without ozone treatment and with 0.3 g of poly(vinyl alc.).

IT Polyolefin fibers
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(ethylene, sheath-core biconstituent fiber with polyester fiber; modifying polymeric material)

IT Nonwoven fabrics

Plastic films
Silk
Wool
(modifying polymeric material)
IT Fibroin
Gelatins, uses
Polyoxyalkylenes, uses
Proteins, general, uses
Sericins
RL: MOA (Modifier or additive use); USES (Uses)
(modifying polymeric material)
IT Cosmetics
Dental materials and ***appliances***
Filters
Paper
Primary battery separators
Secondary battery separators
Textiles
(modifying polymeric material for)
IT Polypropene fibers, properties
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(modifying polymeric material for)
IT 60871-72-9, Poly(p- ***phenylenebisbenzoxazole***) 69794-31-6, Poly(benzo[1,2-d:4,5-d']bisthiazole-2,6-diyl-1,4- ***phenylene***)
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(modifying polymeric material)
IT 9002-88-4, Polyethylene 9003-07-0, Polypropylene
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(modifying polymeric material)
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 43 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:430898 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 135:262190
TITLE: Dental composites reinforced with hydroxyapatite: mechanical behavior and absorption/elution characteristics
AUTHOR(S): Domingo, C.; Arcis, R. W.; Lopez-Macipe, A.; Osorio, R.; Rodriguez-Clemente, R.; Murtra, J.; Fanovich, M. A.; Toledano, M.
CORPORATE SOURCE: Institut de Ciencia de Materials de Barcelona (ICMAB-CSIC), Bellaterra, 08193, Spain
SOURCE: Journal of Biomedical Materials Research (2001), 56(2), 297-305
CODEN: JBMRBG; ISSN: 0021-9304
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The purpose of this study was to analyze the behavior in water as well as the mech. and surface properties of exptl. composites designed for dental restoration. Studied materials were composed of a visible-light-cured monomer mixt. as a matrix [bis-GMA with triethylene glycol dimethacrylate (TEGDMA) or hydroxyethyl methacrylate (HEMA)] and either micrometric or

nanometric hydroxyapatite (HA) particles as a reinforcing filler. The surface of the filler particles was modified by using different coupling agents (citric, hydroxysuccinic, acrylic, or methacrylic acid). The hydrolytic stability of the evaluated materials was studied through elution-in-water and water-uptake tests. Mech. and surface properties were examd. through the results of flexural, hardness, and surface roughness tests. Means and std. deviations were calcd. for each variable. Anal. of variance and multiple comparison tests were performed. Materials contg. bis-GMA-TEGDMA and micrometric-HA coated with citrate, acrylate, or methacrylate displayed the most favorable results. Improvements should be obtained by increasing the total filler amt., and by the introduction of nanometric-HA filler into a micrometric-HA reinforced composite resin system.

L14 ANSWER 45 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:161529 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 134:194387
TITLE: High molecular weight, homogeneous, branched copolymers of maleic anhydride and alkyl vinyl ether monomers useful as denture adhesives
INVENTOR(S): Ulmer, Herbert W.
PATENT ASSIGNEE(S): ISP Investments Inc., USA
SOURCE: U.S., 3 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6197908	B1	20010306	US 1999-263450	19990305
US 2001000257	A1	20010412	US 2000-731132	20001206
US 6252026	B1	20010626		

PRIORITY APPLN. INFO.: US 1999-263450 A3 19990305

AB A high mol. wt. homogeneous, branched copolymer of maleic anhydride and a C1-5 alkyl vinyl ether monomer is described, in which a branching agent is present in an amt. of <0.5% of the polymer. A soln. process of making such polymer also is described. Thus, 0.201 g N,N'-1,3-***phenylenedimaleimide*** in 513.88 g acetone was heated to 70.degree. over 40 min, 11.88 mL maleic anhydride was added at 60.degree., 175.36 mL Me vinyl ether and 1.17 g decanoyl peroxide in 33 g acetone were added at 70.degree. over 3 h, the mixt. was heated at 70.degree. for 30 min to give maleic anhydride-Me vinyl ether-N,N'-1,3-***phenylenedimaleimide*** copolymer, the copolymer was hydrolyzed with water, neutralized using 70 mol% CaCO3 and 10 mol% Na2CO3 to give a solid form polymer showing viscosity 6.86 and MW 1.48 .times. 106.

IT ***Dental*** materials and ***appliances***
(denture adhesives; high mol. wt., homogeneous, branched copolymers of maleic anhydride and alkyl vinyl ether monomers)

IT 328092-55-3DP, hydrolyzed, Na and Ca salt 328092-55-3P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PREP (Preparation); USES (Uses)
(high mol. wt., homogeneous, branched copolymers of maleic anhydride and alkyl vinyl ether monomers)

IT 67-64-1, Acetone, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; high mol. wt., homogeneous, branched copolymers of maleic anhydride and alkyl vinyl ether monomers)
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 46 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:741102 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 133:313678
TITLE: Method for making false teeth imitating natural teeth
INVENTOR(S): Melot, Charles; Lepage, Jean-Philippe
PATENT ASSIGNEE(S): Simonis Plastic, Belg.
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1045363	A1	20001018	EP 2000-870068	20000412
EP 1045363	B1	20050629		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6293797	B1	20010925	US 2000-547651	20000412
AT 298915	E	20050715	AT 2000-870068	20000412
PRIORITY APPLN. INFO.:			BE 1999-248 A	19990412

AB A method for making false teeth imitating natural teeth comprises a crown and 2-3 roots with canals. The crown is prepd. by injection of a plastic material in a mold and having high mech. resistance and hardness and is attached to the roots by polymn. under UV. The roots are made from a transparent or translucent compn. such as poly(Me methacrylate) or polycarbonates and the crown is made from ***polyphenylene*** -sulfones or polyarylamides enforced with glass fibers or mineral elements (no data).
IT ***Dental*** materials and ***appliances***
(artificial ***dental*** roots; method for making false teeth imitating natural teeth)
IT Polyamides, biological studies
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(aryl derivs.; method for making false teeth imitating natural teeth)
IT ***Dental*** materials and ***appliances***
(dentures; method for making false teeth imitating natural teeth)
IT Plastics, biological studies
Polycarbonates, biological studies
Polymers, biological studies
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(method for making false teeth imitating natural teeth)
IT ***Polythiophenylenes***
Polythiophenylenes
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polysulfone-; method for making false teeth imitating natural teeth)

IT Polysulfones, biological studies
Polysulfones, biological studies
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(***polythiophenylene*** -; method for making false teeth imitating natural teeth)
IT 9011-14-7, Poly(methyl methacrylate)
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(method for making false teeth imitating natural teeth)
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 47 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:700464 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 134:9305
TITLE: Adsorption of peroxidase on titanium surfaces: a pilot study
AUTHOR(S): Ahariz, Mohamed; Mouhyi, Jaafar; Louette, Pierre; Van Reck, Jack; Malevez, Chantal; Courtois, Philippe
CORPORATE SOURCE: Faculty of Medicine, Free University of Brussels, Brussels, B-1070, Belg.
SOURCE: Journal of Biomedical Materials Research (2000), 52(3), 567-571
CODEN: JBMRBG; ISSN: 0021-9304
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The present study demonstrates the in vitro and in vivo adsorption of peroxidase onto titanium surfaces. Titanium foils (SEM 365 mm2) were incubated during 30 min with lactoperoxidase (4 mg in 5 mL 100 mM phosphate buffer pH 7). After 15 washings by H2O, titanium foils were incubated with o- ***phenylenediamine*** (6 mg/mL) and H2O2 (7 mM) during 30 min. The reaction was then stopped by the addn. of 1M HCl and the absorbance of the liq. phase was read on a spectrophotometer at 492 nm. In vitro adsorbed lactoperoxidase onto titanium surfaces was 0.70 ng/mm2 (SEM). XPS confirmed the incorporation of protein nitrogen onto titanium surfaces: the nitrogen at. percentage increased from 0.9 to 12.7% and from 3.7 to 14.4%, when titanium foils were incubated in the lactoperoxidase soln. during 30 min and 24 h resp. In vivo, oral peroxidases adsorbed on titanium healing abutments from 0.01 to 0.58 ng/mm2 after 2 wk in the oral environment.

L14 ANSWER 48 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:413527 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 131:248200
TITLE: **Measurement at low strain rates of the elastic properties of dental polymeric materials**
AUTHOR(S): Chabrier, F.; Lloyd, C. H.; Scrimgeour, S. N.
CORPORATE SOURCE: Department of Chemistry-Materials, University of Angers, Angers, Fr.
SOURCE: Dental Materials (1999), 15(1), 33-38
CODEN: DEMAEP; ISSN: 0109-5641
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The objective was to evaluate a simple static test (i.e., a slow strain rate test) designed to measure **Young's modulus** and the bulk modulus of polymeric materials (The NOL Test). Though it is a 'mature' test as yet it has never been applied to dental materials. Methods: A small cylindrical specimen was contained in a close-fitting steel constraining ring and compressive force applied to the ends by steel pistons. The initial (unconstrained) deformation was controlled by Young's modulus. Lateral spreading leads to constraint from the ring and subsequent deformation is controlled by the bulk modulus. A range of dental materials and ref. polymers were selected and both moduli measured. From these data Poisson's ratios were calcd. Results: The test was a simple reliable method for obtaining values for these properties. For composites the value of Young's modulus was lower, bulk modulus relatively similar and Poisson's ratio higher than that obtained from high strain rate techniques (as expected for a strain rate sensitive material). Significance: This test does fulfil a requirement for a simple test to define fully the elastic properties of dental polymeric materials. Measurements are made at the strain rates used in conventional static tests and values reflect this test condition. The higher values obtained for Poisson's ratio at this slow strain rate has implications for FEA, in that anal. is concerned with static or slow rate loading situations.

L14 ANSWER 49 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:219741 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 130:272051
TITLE: ***Dental*** materials curable by ***ring*** -opening metathesis polymerization (ROMP)
INVENTOR(S): Bissinger, Peter
PATENT ASSIGNEE(S): Espe Dental A.G., Germany; 3M Espe AG
SOURCE: Eur. Pat. Appl., 13 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 904766	A2	19990331	EP 1998-118365	19980929
EP 904766	A3	20040310		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 19742981	A1	19990401	DE 1997-19742981	19970929
AU 9887146	A1	19990415	AU 1998-87146	19980929
AU 752582	B2	20020926		
JP 11158023	A2	19990615	JP 1998-275628	19980929
US 6075068	A	20000613	US 1998-161947	19980929
PRIORITY APPLN. INFO.:			DE 1997-19742981 A	19970929

AB Dental filling materials, cements, inlays, veneers, etc. prepd. by ROMP with catalysis by transition metal org. compds. show rapid polymn. with little shrinkage, little tendency to abrasion, and good mech. properties. An addnl. catalyst may be present if the compn. is to be partially polymd. by ROMP and then fully hardened by another mechanism, e.g. radical or cation-induced polymn. Thus, 2,2-bis(4,1- ***phenylenedioxy*** -3,1-propanediyl-7-oxabicyclo[2.2.1]hept-2-enyl-6-carboxy)propylidene 20 and W(:NPh)(CH2SiMe3)2[OCMe(CF3)2]2 (catalyst) 2.0 g were stirred to form

a clear soln., and fumed silica 0.5 and quartz powder 77.5 g were added to produce a homogeneous paste. The paste was placed in a mold and hardened by irradn. with visible light. The product had a compression strength of 392 MPa, bending strength of 94 MPa, and shrinkage during polymn. of 1.4%.

L14 ANSWER 50 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:496493 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 129:221162
TITLE: Investigation of dual-staged polymerization and secondary forming of photopultruded, fiber-reinforced, methacrylate-copolymer composites
AUTHOR(S): Kennedy, K. C.; Kusy, R. P.
CORPORATE SOURCE: Department of Biomedical Engineering, University of North Carolina, Chapel Hill, NC, 27599-7575, USA
SOURCE: Journal of Biomedical Materials Research (1998), 41(4), 549-559
CODEN: JBMRBG; ISSN: 0021-9304
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB To develop a dual-curing monomer system for the photopultrusion of reformable (soft) composites, a microhardness assay showed that in a blend with 2,2-Bis[4-(2- hydroxy-3-methacryloxypropoxy)phenyl] propane (Bis-GMA), the substitution of Me methacrylate (MMA) for triethylene glycol dimethacrylate (TEGDMA) delayed the onset of gelation during photopolymn. Adding lauroyl peroxide permitted the completion of polymn. thermally. This system was used to form silicate-glass-fiber-reinforced composites, with varying degrees of conversion, by photopultruding over a range of pulling speeds. Sol-gel extns. demonstrated both fully sol. and insol. matrixes. For the sol. material, gel permeation chromatog. elucidated a trimodal distribution of mol. wts. that corresponded to MMA, Bis-GMA, and polymeric mols. with mol. wts. in the tens of thousands. Composites with matrix solubilities above about 10% wt could be swaged after photopultrusion to change the cross section from circular to rectangular before thermal processing. The effect on the final elastic modulus was small (.apprx.44GPa, as measured in flexure for 57% vol-reinforced composites); but the final flexure strength was reduced by ap- proximately 25% to a const. of about 1.2 GPa. Morphol. characteristics that were seen in the circular-sectioned precursors were obsd. in the swaged rectangular products as well, including flaws when swaging was conducted at matrix solubilities above about 75%.

L14 ANSWER 51 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:579236 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 127:225250
TITLE: Interpenetrating polymer networks for dental applications via simultaneous photoinitiated cationic and radical polymerization
AUTHOR(S): Belfield, Kevin D.; Pichandi, Senthil; Abdelrazzaq, Feras B.; Walsh, Michael
CORPORATE SOURCE: Department of Chemistry, University of Detroit Mercy, Detroit, MI, 48219-0900, USA
SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1997), 38(2), 88-89
CODEN: ACPPAY; ISSN: 0032-3934

PUBLISHER: American Chemical Society, Division of Polymer Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In order to investigate the potential usefulness of dioxolane monomers for structural composite applications, simultaneous cationic and radical photoinitiated polymn. of 4-methylene-2-phenyl-1,3-dioxolane and crosslinker 2,2'-(1,4- ***phenylene***)bis-4-methylene-1,3-dioxolane , designed to undergo little vol. change and methacrylate monomers and crosslinkers, designed to impart mech. strength were reported.
IT ***Dental*** materials and ***appliances***
(composites; interpenetrating polymer networks for ***dental*** applications via simultaneous photoinitiated cationic and radical polymn.)
IT Interpenetrating polymer networks
(interpenetrating polymer networks for dental applications via simultaneous photoinitiated cationic and radical polymn.)
IT Polymerization
(photopolymn.; interpenetrating polymer networks for dental applications via simultaneous photoinitiated cationic and radical polymn.)
IT 4362-26-9 188602-82-6
RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(interpenetrating polymer networks for dental applications via simultaneous photoinitiated cationic and radical polymn.)

L14 ANSWER 52 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:503401 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 127:210304
TITLE: Characterization of some aromatic dimethacrylates for dental composite applications
AUTHOR(S): Sankarapandian, M.; Shobha, H. K.; Kalachandra, S.; McGrath, J. E.; Taylor, D. F.
CORPORATE SOURCE: NSF Center, Virginia Tech, Blackburg, VA, 25061, USA
SOURCE: Journal of Materials Science: Materials in Medicine (1997), 8(8), 465-468
CODEN: JSMMEL; ISSN: 0957-4530
PUBLISHER: Chapman & Hall
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Several novel dimethacrylates have been developed as alternative matrix materials for dental composite applications. For the cured bulk polymers the equil. water uptake, redn. of glass transition temps. (Tgs) by water sorption, refractive indexes and the surface hardness have been detd. The properties were then compared with those of the control Bis-GMA. These properties correlated well with the structures of the polymers. Polar groups were found to increase the water sorption and thus reduce surface hardness.
IT Glass transition temperature
Refractive index
(characterization of some arom. dimethacrylates for dental composite applications)
IT ***Dental*** materials and ***appliances***
(composites; characterization of some arom. dimethacrylates for dental composite applications)
IT Hardness (mechanical)

(surface; characterization of some arom. dimethacrylates for dental composite applications)
IT 1565-94-2, Bis-GMA 24448-20-2, 2-Propenoic acid, 2-methyl-, (1-methylethylidene)bis[4,1- ***phenyleneoxy*** (2,1-ethanediyl)] ester 29384-58-5, 2-Propenoic acid, 2-methyl-, (1-methylethylidene)bis(4,1- ***phenyleneoxy*** -2,1-ethanediyl) ester, homopolymer 30757-19-8, 2-Propenoic acid, 2-methyl-, (1-methylethylidene)bis[4,1- ***phenyleneoxy*** (2-hydroxy-3,1-propanediyl)] ester, homopolymer 69709-05-3 74384-84-2 74384-85-3 123097-73-4 125718-35-6 125718-36-7 186691-78-1 194467-21-5 194467-22-6 194467-23-7 194467-24-8 194467-25-9 194555-92-5 194555-93-6 194555-94-7 194614-55-6 194614-56-7 194614-57-8
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(characterization of some arom. dimethacrylates for dental composite applications)
IT 7732-18-5, Water, properties
RL: PRP (Properties)
(sorption and uptake; characterization of some arom. dimethacrylates for dental composite applications)
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 53 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:318960 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 127:39691
TITLE: Influence of hydrogen bonding on properties of BIS-GMA analogs
AUTHOR(S): Kalachandra, S.; Sankarapandian, M.; Shobha, H. K.; Taylor, D. F.; McGrath, J. E.
CORPORATE SOURCE: VPI, Blacksburg, VA, 24061-0212, USA
SOURCE: Journal of Materials Science: Materials in Medicine (1997), 8(5), 283-286
CODEN: JSMMEL; ISSN: 0957-4530
PUBLISHER: Chapman & Hall
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The influence of chem. structure on the important properties of composite matrix resins is being systematically investigated. This study addresses the relationships between pendent side chain structures, viscosity and curing shrinkage. In particular, viscosity is known to be greatly influenced by intermol. interactions, such as hydrogen bonding, and free vol. effects. In order to establish the relative importance of these factors, analogs of BIS-GMA were synthesized in which the pendent hydroxyl groups were replaced by tri-Me siloxyl, and by di-Me, iso-Pr siloxyl groups. The viscosities were detd. with a cone and plate viscometer and curing shrinkages were detd. gravimetrically. They were compared to previously detd. values for BIS-GMA- and its Me and hydrogen substituted analogs. The high viscosity of BIS-GMA is drastically reduced by replacement of the hydroxyl group, or its substitution by silylation. The relatively smaller effects produced by varying the bulk of the substituted side chains indicates that the main effect on viscosity is due to the presence of absence of hydrogen bonding. Conversely, increasing the bulk of the side chain substituent has less effect on viscosity, but significantly reduces the curing shrinkage. Changes in curing shrinkages were explained in terms of effects of free vols. assocd. with the monomers.

IT ***Dental*** materials and ***appliances***
(composites; hydrogen bonding effect on properties of Bis-GMA analogs)
IT Hydrogen bond
Molecular structure-property relationship
Viscosity
(hydrogen bonding effect on properties of Bis-GMA analogs)
IT 1565-94-2, Bis-GMA 27689-12-9, 2-Propenoic acid, 2-methyl-, (1-methylethylidene)bis[4,1- ***phenyleneoxy*** (3,1-propanediyl)] ester 118904-53-3 186691-77-0, 2-Propenoic acid, 2-methyl-, (1-methylethylidene)bis[4,1- ***phenyleneoxy*** (2-methyl-3,1-propanediyl)] ester 190903-34-5
RL: PRP (Properties); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(hydrogen bonding effect on properties of Bis-GMA analogs)
IT 920-46-7, Methacryloyl chloride 3634-56-8, Dimethylisopropylsilyl chloride 7379-79-5, Trimethylsilylamine
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogen bonding effect on properties of Bis-GMA analogs)
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 54 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1996:618796 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 125:257288
TITLE: Moisture-resistant bonding-opaquing composition for dental facings
INVENTOR(S): Goebel, Roland
PATENT ASSIGNEE(S): Germany
SOURCE: Ger. Offen., 6 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19509289	A1	19960919	DE 1995-19509289	19950315

PRIORITY APPLN. INFO.: DE 1995-19509289 19950315

AB A combined bonding and opaquing layer for attachment of plastic facings to metallic dental prostheses comprises an oligoglycidyl compd., an oligoisocyanate, an olefin with .gtoreq.2 double bonds (esp. a di- or trimethacrylate), an amine, a polybasic carboxylic acid or anhydride, a polyol, a photoactive component, an inorg. filler, and pigments. The combination of glycidyl compd., isocyanate, and methacrylate provides optimal bonding which is resistant to hydrolysis induced by moisture in the oral cavity. Thus, a bonding-opaquing compn. comprising bisphenol A diglycidyl ether 1, diglycidyl hexahydrophthalate 4, bis(cyclopentadiene) dioxide 3, vinylcyclohexene dioxide 2, m- ***phenylenediamine*** 6, hexamethylene diisocyanate-based annealing polyurethane 12, 1,4-butanediol dimethacrylate 4, trimethylolpropane trimethacrylate 4, bis-GMA 8, Me methacrylate 5, hexahydrophthalic acid 4, phthalic anhydride 6, branched hydroxylated polyester 8, camphorquinone 0.2, triethanolamine 0.3, highly disperse silicate xerogel 30, and TiO2 2.5 g was applied to the corundum-blasted surface of a Maingold SG alloy prosthesis to a thickness of .apprx.50 .mu.m and tempered at 190.degree. for 4 min. Then a layer of photopolymerizable, methacrylate-based Dentacolor opaquer was applied, and

the prosthesis was embedded in a methacrylate-based dental material which was photopolymd., placed in boiling water for 1 h, and stored in water for 24 h. The shear strength of the metal-facing bond was 51 MPa.

L14 ANSWER 55 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1996:382777 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 125:41881
TITLE: High refractive index and/or radio-opaque resins systems
INVENTOR(S): Davy, Kenneth Walter Michael; Labella, Roberto
PATENT ASSIGNEE(S): London Hospital Medical College, UK
SOURCE: Eur. Pat. Appl., 13 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 710475	A1	19960508	EP 1995-307505	19951023
EP 710475	B1	20011121		
R: BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE				
ES 2168340	T3	20020616	ES 1995-307505	19951023
JP 08208417	A2	19960813	JP 1995-284962	19951101

PRIORITY APPLN. INFO.: GB 1994-22008 A 19941101
AB A dental compn. comprises a resin base contg. at least one brominated or iodinated acrylate or methacrylate monomer having a high refractive index of above 1.6, in admixt. with a material which has refractive index of plus or minus 0.05 of the refractive index of the said resin base. The filler material is preferably radio-opaque and comprise apatite, hydroxyapatite, a modified hydroxyapatite, wollastonite or a powd. crosslinked polymer.

L14 ANSWER 56 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1995:784979 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 123:179562
TITLE: Use of a thermally hardenable composition as dental material
INVENTOR(S): Rheinberger, Volker; Moszner, Norbert
PATENT ASSIGNEE(S): Ivoclar AG, Liechtenstein
SOURCE: Ger. Offen., 11 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4402766	A1	19950727	DE 1994-4402766	19940126
DE 4402766	C2	19970515		
AU 9510086	A1	19950803	AU 1995-10086	19950109
AU 682553	B2	19971009		
EP 664999	A1	19950802	EP 1995-250014	19950123
EP 664999	B1	19990324		

R: AT, CH, DE, FR, GB, IT, LI, SE

US 5539017	A	19960723	US 1995-376935	19950123
AT 177937	E	19990415	AT 1995-250014	19950123
JP 07258018	A2	19951009	JP 1995-10056	19950125
JP 2642324	B2	19970820		
CA 2141158	AA	19950727	CA 1995-2141158	19950126
PRIORITY APPLN. INFO.:			DE 1994-4402766 A	19940126

AB A resin for use as a dental material is prepd. by Michael addn. of a .beta.-dicarbonyl donor R1Z[Y(ZR1)]nXZR1 [R1 = R3C(O)CHR2C(O)CH3; R2 = H, alkyl, aryl; R3 = O, NH, bond; X, Y = (O-, S-, or NH-contg.) alkylene, ***phenylene*** , or ***alkylphenylene*** ; Z = alkylene, ***phenylene*** ; n = 0-15] to an .alpha.,.beta.-unsatd. carboxylate ester acceptor R4Z[Y(ZR4)]mXZR4 (R4 = CH2:CR5CO2R6; R5 = H, CN, alkyl; R6 = Me, glycol, etc.; m = 0-15; X, Y, Z as above). Polymn. occurs rapidly at low temp., and the resin shows little shrinkage during hardening. Thus, a polymer prepd. from pentaerythritol tetraacrylate and glycerol tris(acetoacetate) had Shore D hardness 83, bending strength 73.2 MPa, elastic modulus 2200 MPa, and water uptake 5.8% in 7 days.

L14 ANSWER 57 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1994:541799 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 121:141799
TITLE: Antimicrobial compositions, process for preparing the same and use
INVENTOR(S): Jacobson, Howard Wayne; Scholla, Michael Heal; Wigfall, Annie Williams
PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA
SOURCE: PCT Int. Appl., 54 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9415463	A1	19940721	WO 1993-US3188	19930406
W: AU, BR, CA, JP, KR, NO, NZ, PL, RO, RU, UA				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9334412	A1	19940815	AU 1993-34412	19930111
EP 677989	A1	19951025	EP 1993-903055	19930111
EP 677989	B1	19980916		
R: DE				
JP 08505858	T2	19960625	JP 1993-516449	19930111
AU 9342785	A1	19940815	AU 1993-42785	19930406
PRIORITY APPLN. INFO.:			US 1993-6022 A	19930115
			WO 1993-US194 W	19930111
			WO 1993-US3188 W	19930406

AB An antimicrobial compn. comprises an inorg. particle with a first coating providing antimicrobial properties and a second coating providing a protective function to produce polymeric articles with antibacterial properties, which may be used in medical applications, such as melt-blown antimicrobial fibers for sterile filters ***dental*** ***devices*** , food wrap, etc. (no data). For example, titania powder coated successively with Ag, ZnSiO3, SiO2, and hydrous alumina was prepd., blended with dioctyl azelate, admixed with nylon 66 powder, and melt-spun

into fibers.

L14 ANSWER 58 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1993:632212 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 119:232212
TITLE: Coefficient of friction characterization of surface-modified polycrystalline alumina. [Erratum to document cited in CA119(16):166234e]
AUTHOR(S): Kusy, Robert P.; Keith, Olga; Whitley, John Q.; Sauners, Carl R.
CORPORATE SOURCE: Dent Res. Cent., Univ. North Carolina, Chapel Hill, NC, 77599-7455, USA
SOURCE: Journal of the American Ceramic Society (1993), 76(7), 1904
CODEN: JACTAW; ISSN: 0002-7820
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The errors were not reflected in the abstr. or the index entries.
IT ***Dental*** materials and ***appliances***
(alumina ceramic, friction of, effects of surface modification processes on (Erratum))
IT Ceramic materials and wares
(alumina, friction of, effects of surface modification processes on (Erratum))
IT Friction
(of alumina ceramics, effects of surface modification processes on (Erratum))
IT 150361-45-8
RL: USES (Uses)
(alumina ceramic friction against, effects of ceramic surface modification processes on (Erratum))
IT 12597-68-1, Stainless steel, properties
RL: PRP (Properties)
(alumina ceramic friction against, effects of ceramic surface modification processes on (Erratum))
IT 1344-28-1, Aluminum oxide (Al2O3), uses
RL: USES (Uses)
(ceramics, friction of, effects of surface modification processes on (Erratum))
IT 25722-33-2, Poly(1,4- ***phenylene*** -1,2-ethanediyl)
RL: USES (Uses)
(coatings, plasma-deposited, on alumina ceramic, friction in relation to (Erratum))
IT 7440-44-0, Carbon, uses
RL: USES (Uses)
(diamond-like, coatings, on alumina ceramic, friction in relation to (Erratum))
IT 7440-32-6, Titanium, uses
RL: USES (Uses)
(implantation by, of alumina ceramics, friction in relation to (Erratum))

L14 ANSWER 59 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1993:588671 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 119:188671
TITLE: Poly(fluorinated ethylene) coatings for medical goods

INVENTOR(S): Dunton, Ronald K.; Homola, Andrew M.
PATENT ASSIGNEE(S): USA
SOURCE: PCT Int. Appl., 49 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9317077	A1	19930902	WO 1993-US1228	19930218
W: AU, BR, CA, FI, JP, NO				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9336636	A1	19930913	AU 1993-36636	19930218
PRIORITY APPLN. INFO.:			US 1992-838912 A	19920221
			WO 1993-US1228 A	19930218

AB A coating for medical goods such as stainless steel needles comprises of a primer layer of a binder resin that is bonded to the surface of the substrate and a layer or layers of particles of PTFE. Stainless steel surgical needles were dipped into a Elvamide 8063 soln. and the coated needles were then dipped into a 30% soln. of PTFE followed by heating at 160-165.degree. and coating with perfluoropolyether lubricant.

IT Acrylic polymers, biological studies
Epoxy resins, biological studies
Phenolic resins, biological studies
Polyamides, biological studies
Polyesters, biological studies
Polyimides, biological studies
Polyoxymethylenes, biological studies
Polysulfones, biological studies
Polythiophenylenes
Siloxanes and Silicones, biological studies
Urethane polymers, biological studies
RL: BIOL (Biological study)
(coating of medical goods with PTFE and)

IT ***Dental*** materials and ***appliances***
(sticks, coating of, with resin binder and PTFE)

IT ***Dental*** materials and ***appliances***
(tapes, coating of, with resin binder and PTFE)

IT Dentifrices
(dental floss, coating of, with resin binder and PTFE)

L14 ANSWER 62 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1991:589832 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 115:189832
TITLE: Demineralized bone powder on osteoprosthetic implant
INVENTOR(S): Lyle, John W.
PATENT ASSIGNEE(S): Osteotech, Inc., USA
SOURCE: Eur. Pat. Appl., 7 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 413492	A2	19910220	EP 1990-308655	19900807
EP 413492	A3	19920408		
EP 413492	B1	19971126		
R: BE, DE, FR, GB, IT, NL				
JP 03178665	A2	19910802	JP 1990-215946	19900817
JP 3331413	B2	20021007		

PRIORITY APPLN. INFO.: US 1989-395783 A 19890818

AB At least a portion of the surface of an osteoprosthetic implant is provided with demineralized bone powder adhering thereto. Sorption of the bone particles is accompanied by rapid and deep bone in-growth which firmly anchors the prosthesis to the host bone repair site. Pulverized and sewed cortical bone was treated with EtOH, with HCl, and then neutralized to make demineralized cortical bone powder. The stem of a hip joint prosthesis was dipped in a binding agent soln. of polybutylene terephthalate in m-cresol, the soln. was dried to a tacky consistency, and bone powder was dusted onto the surface of the binding agent. The procedure was repeated several times to build up an osteogenic layer of .apprx.2-3mm av. thickness and contg. .apprx.40-50 wt.% deamineralized bone powder on the surface. Following complete evapn. of solvent, the coated prosthesis was sterilized and packaged.

IT Enamels
Polyamides, biological studies
Polyesters, biological studies
Polyoxyphenylenes
Polysulfones, biological studies
RL: BIOL (Biological study)
(as binding agent for demineralized bone powder on osteoprosthetic implant)

IT ***Polythiophenylenes***
RL: BIOL (Biological study)
(as binding agents for demineralized bone powder on osteoprosthetic implant)

IT ***Dental*** materials and ***appliances***
(demineralized bone powder attached to surface of)

L14 ANSWER 63 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1991:409977 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 115:9977
TITLE: The effect of catalyst structure on the synthesis of a dental restorative monomer
AUTHOR(S): Farahani, M.; Johnston, A. D.; Bowen, R. L.
CORPORATE SOURCE: Paffenbarger Res. Cent., Am. Dent. Assoc., Gaithersburg, MD, 20899, USA
SOURCE: Journal of Dental Research (1991), 70(1), 67-71
CODEN: JDREAF; ISSN: 0022-0345
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Tertiary amines (6 aliph./polycyclic, 2 benzylic, 4 arom./heterocyclic) were used to catalyze the diesterification of pyromellitic dianhydride with 2-hydroxyethyl methacrylate and the effect of amine structure on the para-meta isomer ratio of the product bis(methacryloyloxethyl) pyromellitate was studied. Max. yields of the desired para isomer were obtained with iso-PrNEt2 and hexamethylenetetramine. PhCH2NMe2 was almost

as good as the best aliph. amines, while p-(Me2N)2CH6H4 was the best arom. amine.

L14 ANSWER 64 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1991:192658 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 114:192658
TITLE: Dental adhesive compositions
INVENTOR(S): Imai, Yoji; Kadoma, Yoshinori; Kojima, Katsunori
PATENT ASSIGNEE(S): Mitsui Petrochemical Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02245080	A2	19900928	JP 1989-65421	19890317
JP 2729236	B2	19980318		

PRIORITY APPLN. INFO.: JP 1989-65421 19890317
OTHER SOURCE(S): MARPAT 114:192658
AB Adhesive compns., which are quickly cured and useful for dental materials as well as artificial bones and metals, contain polymerizable monomers and CR1R2R3O2COXY, CR1R2R3O2COZO2CXY, or Z(O2COXY)2 [R1, R2, R3 = H, alkyl, (un)substituted Ph, (un)substituted cyclohexyl; X = alkylene, vinylene, ***phenylene*** ; Y = CO2H, (CO)2CO, phosphate residue, borate residue; Z = (un)substituted alkylene] as polymn. initiators. Me methacrylate soln. contg. 0.08% methacryloylcholine chloride and 0.008% Cu acetylacetonate was mixed with equal amt. of poly(Me methacrylate) powder contg. 2% 1,3,5-trimethyl-2-thiobarbituric acid and 1% tert-Bu peroxymaleate (I) and applied to bovine teeth to show adhesion strength 94 kg/cm2 and curing time 6 min 30 s, vs. 45 kg/cm2 and 3 min, without I, resp.

L14 ANSWER 65 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1989:179573 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 110:179573
TITLE: Unsaturated sulfur compound primers for waterproof dental copolymer adhesives
INVENTOR(S): Omura, Ikuo; Yamauchi, Junichi; Kawashima, Mitsunobu
PATENT ASSIGNEE(S): Kuraray Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 24 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 277413	A2	19880810	EP 1987-308801	19871005
EP 277413	A3	19880914		
EP 277413	B1	19920422		
R: DE, FR, GB, IT, NL				
JP 63225674	A2	19880920	JP 1987-251846	19871005

JP 09235517	A2	19970909	JP 1996-252639	19871005
US 5064495	A	19911112	US 1989-379666	19890713
US 5085726	A	19920204	US 1990-633959	19901226
PRIORITY APPLN. INFO.:			JP 1986-238946	A 19861006
			US 1987-103685	B1 19871002
			JP 1987-251846	A3 19871005
			US 1989-379666	A1 19890713

AB A dental adhesive comprises (A) an olefinically unsatd. compd. having .gtoreq.1 mercapto group of polysulfide group joined to a satd. C atom and .gtoreq.1 olefinic bond, i.e., H2C:CR1X(R2)kCR3R4SH (I) or H2C:CR1X(R2)kCR3R4SnCR5R6R7 (II) (R1 = H, Me; R2-R7= H, hydrocarbyl optionally contg. vinyl or polysulfide group, halo, mercapto; or 2 or 3 of R2-R4 or R5-R7 combine to make a ring; X = CO2, O2C, CONH, COS, SOC, S, ***phenylene*** ; k = 0,1; n = 2-6) and (B) solvent that does not copolymerize with the monomer. A 1% acetone soln. of H2C:CMeCOSCH2CH2SH (III) was applied to a polished Au plate, to a Au-Ag-Pd alloy, and to a Au-Pt-Pd alloy. 1 Min after the application, the coating was washed with acetone, and a round rod, one end of which was roughened by sand blasting, and contg. Panavia EX paste (methacrylate ester dental adhesive) was bonded to the III-coated substrate. 1 H later, the bonded test pieces were immersed in water at 37.degree. for 24 h. After immersion, the tensile bond strength was measured using a universal tester at a cross-head speed of 2 mm/min. The following adhesions were obsd., Au 252, Au-Ag-Pd alloy 266, and Au-Pt-Pd alloy 301 kg/cm-, vs. 171, 151, and 128, resp., for control adhesions where no III primer was applied to the substrate.

IT ***Dental*** materials and ***appliances***
(adhesives, unsatd. sulfur primers for, not affected by water)

IT ***Dental*** materials and ***appliances***
(primers, unsatd. sulfur compds., manuf. of, for precious metal bonding)

L14 ANSWER 66 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER:	1989:115734 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER:	110:115734
TITLE:	Evaluation of spiro orthocarbonate monomers capable of polymerization with expansion as ingredients in dental composite materials
AUTHOR(S):	Stansbury, J. W.; Bailey, W. J.
CORPORATE SOURCE:	Natl. Bur. Stand., Gaithersburg, MD, 20899, USA
SOURCE:	Polymeric Materials Science and Engineering (1988), 59, 402-6 CODEN: PMSEDG; ISSN: 0743-0515
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB Spiro orthocarbonate monomers were prepd. by reaction of thionocarbonates with cyclic dibutyltin oxide derivs. of methylene-1,3-propanediol. 3,3-Dimethyl-9-methylene-1,5,7,11-tetraoxaspiro[5.5]undecane (I) was prepd. and homopolymd. with a 3.4% expansion in vol. Copolymn. of I or other spiro orthocarbonate monomers with TEGDMA and Bis-GMA in dental compns. resulted in lower vol. shrinkage than polymn. of the compns. in the absence of spiro monomers.

L14 ANSWER 67 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1988:612185 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 109:212185
TITLE: Vinyl-containing sulfonic acid adhesive compositions
INVENTOR(S): Kunimoto, Shinichiro; Kawaguchi, Toshio; Kusumoto, Koji
PATENT ASSIGNEE(S): Tokuyama Soda Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63189483	A2	19880805	JP 1987-21709	19870203
JP 08009712	B4	19960131		

PRIORITY APPLN. INFO.: JP 1987-21709 19870203
OTHER SOURCE(S): MARPAT 109:212185

AB Adhesive compns. comprise CH2:CR1COZSO3H (I; R1 = alkyl, H; Z = C5-20 org. group), vinyl monomers, and radical initiators. A mixt. of CH2:CMeO2C(CH2CH2O)mZ1CMe2Z1(OCH2CH2)nO2CCMe:CH2 (Z1 = p- ***phenylene*** , m + n = 2.6) 30, neopentyl glycol dimethacrylate 30, trimethylene glycol dimethacrylate 30, CH2:CMeCO2(CH2)10O2CZ2SO3H (Z2 = m- ***phenylene***) 10, powd. silane-treated SiO2 100, BPO 2, and hydroquinone monomethyl ether 0.05 part was used to glue Ni-Cr alloy and stainless steel, giving adhesion 310 kg/cm2 initially, 299 kg/cm2 after 6 mo in 23.degree. water, and 287 kg/cm2 after 5,000 cycles in 4.degree. to 60.degree. water for 1 min.

IT Tooth
(adhesives for, vinyl-contg. sulfonic acid copolymer as)
IT ***Dental*** materials and ***appliances***
(adhesives, vinyl-contg. sulfonic acid copolymer as)

L14 ANSWER 69 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1987:90233 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 106:90233
TITLE: (Meth)acrylate esters for dental materials
INVENTOR(S): Reiners, Juergen; Winkel, Jens; Klauke, Erich; Sueling, Carlhans; Podszun, Wolfgang
PATENT ASSIGNEE(S): Bayer A.-G., Fed. Rep. Ger.
SOURCE: Ger. Offen., 34 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3516257	A1	19861113	DE 1985-3516257	19850507
NO 8601599	A	19861110	NO 1986-1599	19860423
CN 86102967	A	19861224	CN 1986-102967	19860424
CN 1004485	B	19890614		
EP 201778	A1	19861120	EP 1986-105718	19860425
EP 201778	B1	19881228		

R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE

AT 39480	E	19890115	AT 1986-105718	19860425
AU 8657008	A1	19861113	AU 1986-57008	19860501
AU 586248	B2	19890706		
US 4752338	A	19880621	US 1986-858402	19860501
JP 61257957	A2	19861115	JP 1986-101220	19860502
FI 8601863	A	19861108	FI 1986-1863	19860505
DK 8602087	A	19861108	DK 1986-2087	19860506
ZA 8603377	A	19861230	ZA 1986-3377	19860506
HU 42106	A2	19870629	HU 1986-1863	19860506
ES 554688	A1	19871116	ES 1986-554688	19860506
CN 1033799	A	19890712	CN 1988-108942	19881223

PRIORITY APPLN. INFO.: DE 1985-3516257 A 19850507
EP 1986-105718 A 19860425

OTHER SOURCE(S): CASREACT 106:90233; MARPAT 106:90233

AB The esters C2F4(C6H3R1YZO2CCR2:CH2)2 [R1 = H, Cl, F, alkyl; R2 = H, Me; Y = NHCO2, NHCONR3; R3 = H, alkyl, Ph; Z = hydrocarbylene, optionally contg. O atoms and/or bearing (meth)acrylate groups] give dental materials (fillings, coatings) with good mech. properties. Adding 86.4 g 2-hydroxypropyl methacrylate dropwise to 100.8 g C2F4(C6H4NCO-m)2 [prepd. (355 g) by phosgenation of 353 g of the corresponding diamine], 80 mg hindered phenol, and 1 g Bu2Sn dilaurate in 500 mL CHCl3 at 50-60.degree. gave a diurethane (I). Mixing 1 part soln. of 70 parts I, 30 parts triethylene glycol dimethacrylate, and 1.94% Bz2O2 with 1 part similar compn. contg. 2% arom. amine in place at Bz2O2 gave a compn. curing in 2-3 min to a product with flexural strength and modulus 95.3 and 5982 N/mm2, resp.

IT ***Dental*** materials and ***appliances***
(fluorourethane methacrylates, redox- and photocurable)

L14 ANSWER 70 OF 70 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1987:90229 HCAPLUS <<LOGINID::20060912>>
DOCUMENT NUMBER: 106:90229
TITLE: Dental materials containing poly(methyl methacrylate) and alkylated poly(4- ***phenyleneterephthalamide***)
INVENTOR(S): Yamazaki, Sho; Yamanaka, Akira; Kurata, Shigeaki; Shimozato, Takashi
PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61227508	A2	19861009	JP 1985-68030	19850330
JP 04025921	B4	19920506		

PRIORITY APPLN. INFO.: JP 1985-68030 19850330

AB Dental materials contain mol. complexes prepd. by dispersing N-C8-20-alkylated poly(4- ***phenyleneterephthalamide***) in the matrix of poly(Me methacrylate) resins. These materials are esp. useful as denture-base materials. Thus, N-octyl-poly(4- ***phenyleneterephthalamide***) 1.0, Bz2O2 0.5, and Me methacrylate 98.5

parts by wt. were mixed, poured into a denture-base mold, and thermopolymd. 24 h at 55.degree. and 24 h at 100.degree.. This denture base had compression strength 1292 kgf/cm2, tensile strength 1633 kg f/cm2, and water absorption 0.42 mg/cm2.

IT ***Dental*** materials and ***appliances***
(dentures, bases, contg. poly(Me methacrylate) and alkylated poly(***phenyleneterephthalamide***))

NPL Bibliographic Database Search

Search Strategy

Set	Items	Description
S1	949327	DENTAL? OR DENTIST? OR ORTHODONT? OR PROSTHODONT? OR (ORTHO OR PROSTHO)()DONTIC? OR ODONTOLOG?
S2	120478	ARYLEN? OR POLYARYLEN? OR HETEROARYLEN? OR POLYHETEROARYLEN? OR PARMAX OR POLY()X OR PHENYLEN? OR PARAPHENYLEN? OR POLYPHENYLEN? OR RIGID(3W)(POLYMER? OR COPOLYMER? OR HOMOPOLYMER?)
S3	454305	(THERMOPLASTIC? OR THERMO()PLASTIC?)(3N)(POLYMER? OR COPOLYMER? OR HOMOPOLYMER? OR MATERIAL? ?) OR POLYVINYL()(CHLORIDE? OR ALCOHOL) OR POLYAMIDE? OR POLYFLUOROCARBON? OR POLYOLEFIN? OR POLYSTYRENE?
S4	28516	UNREINFORC? OR UNREENFORC? OR ("NOT" OR NONE OR NO OR UN OR WITHOUT OR "WITH"()OUT OR NON)(2W)(REINFORC? OR REENFORC? OR STRENGTHEN?)
S5	445559	TENSILE(2N)(STRENGTH OR STRESS) OR (YIELD OR ULTIMATE OR BREAKING)()STRENGTH
S6	311232	(TENSILE OR ELASTIC? OR YOUNG? ? OR SHEAR OR BULK)(2N)(MODULUS OR MODULI)
S7	2226432	PASCAL? ? OR MEGAPASCAL? ? OR GIGAPASCAL? ? OR PA OR MPA OR GPA OR PSI
S8	99153	N()(MM OR MM2 OR M OR M2) OR MN()(M OR M2) OR (LB OR LBS)(-2W)(IN OR IN2)
S9	1607	NEWTON? ?(2W)(MILLIMET? OR METRE? ? OR METER? ?) OR MEGANEWTON? ?(2W)(METER? ? OR METRE? ?) OR POUND? ?(2W)(INCH OR INCHES)
S10	34062	S1(5N)(APPLIANCE? OR DEVICE? OR COMPONENT? OR WIRE OR WIRES OR ARCHWIRE? OR BRACKET? ? OR RING OR RINGS OR AUXILIARY OR -AUXILIARIES)
S11	3	S10 AND S2
S12	3	RD (unique items)
S13	134	S1 AND S2
S14	18	S13/2003:2006
S15	113	S13 NOT (S11 OR S14)
S16	86	RD (unique items)
S17	50144	S1 (S)(APPLIANCE? OR DEVICE? OR COMPONENT? OR WIRE OR WIRES OR ARCHWIRE? OR BRACKET? ? OR RING OR RINGS OR AUXILIARY OR -AUXILIARIES)
S18	19	S17 AND S2
S19	18	S18 NOT S11
S20	10	RD (unique items)
S21	20851	S5(5N)S7:S9
S22	11728	S6(5N)S7:S9
S23	2	S1 AND S2:S3 AND S4 AND S21:S22
S24	2	S23 NOT (S11 OR S14 OR S19)
S25	10	S1 AND S2:S3 AND S21:S22
S26	8	S25 NOT (S11 OR S14 OR S19 OR S24)
S27	5	RD (unique items)
S28	98	S1 AND S2:S3 AND S5:S6
S29	24	S28/2003:2006
S30	67	S28 NOT (S11 OR S14 OR S19 OR S24 OR S26 OR S29)
S31	59	RD (unique items)

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File 155:MEDLINE(R) 1950-2006/Sep 11
         (c) format only 2006 Dialog
File  73:EMBASE 1974-2006/Sep 12
         (c) 2006 Elsevier B.V.
File   5:Biosis Previews(R) 1969-2006/Sep W1
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         (c) 2006 Elsevier B.V.
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File 164:Allied & Complementary Medicine 1984-2006/Sep
          (c) 2006 BLHCIS
File  71:ELSEVIER BIOBASE 1994-2006/Sep W2
         (c) 2006 Elsevier B.V.
File 315:ChemEng & Biotec Abs 1970-2006/Aug
         (c) 2006 DECHEMA
File 357:Derwent Biotech Res. _1982-2006/Sep W2
         (c) 2006 The Thomson Corp.
File 358:Current BioTech Abs 1983-2006/Jan
          (c) 2006 DECHEMA
File 285:BioBusiness(R) 1985-1998/Aug W1
         (c) 2006 The Thomson Corporation
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Search Results

12/5/2 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS

0580052 NTIS Accession Number: PB-258 002/5/XAB
Development of Improved Materials for Extraoral Maxillofacial Prostheses
(Annual technical rept. no. 2, 15 May 75-15 May 76)
Lewis, D. H. ; Miller, D. R. ; Cowsar, D. R.
Southern Research Inst., Birmingham, Ala.
Corp. Source Codes: 328100
Sponsor: National Inst. of Dental Research, Bethesda, Md.
Report No.: SORI-EAS-76-251; NIH-NIDR/CR-76/11
Jun 76 48p
Journal Announcement: GRAI7625
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A03/MF A01
Contract No.: N01-DE-42435
An improved elastomer with an optimum balance of mechanical properties, processability, environmental stability, colorability, and esthetics, for use in fabricating extraoral maxillofacial prostheses, was sought. An **arylene** silicone polymer polytetramethylsilphenylene-siloxanedimethylsilo xane was synthesized and formulated as a pourable, viscous, room-temperature-vulcanizing liquid. Silphenylene polymers are colorless and will accept either intrinsic or extrinsic coloration. When mixed with conventional catalysts, the silphenylene vulcanizates can be easily and reliably cast in closed dental stone molds to give prostheses that are strong and tough yet soft and pliable. Typical values for tensile strength, elongation at break, modulus at 100% elongation, and hardness are, respectively, 1400 psi, 1000%, 50 psi, and 35 (Shore A). The silphenylene elastomers have an excellent tactual as well as visual resemblance to skin, and they adhere well to tapes and adhesives. A preclinical toxicologic evaluation has been completed, and the materials are currently undergoing clinical evaluations.
Descriptors: *Prosthetic **devices** ; * **Dental** prostheses; Face(Anatomy); Materials; Silicone resins; Elastomers; Polymers; Fabrication; Synthesis(Chemistry); Mechanical properties; Tables(Data); Toxicology; Tensile strength
Identifiers: *Maxillofacial prosthesis; *Biomaterials; NTISNIHIDR
Section Headings: 95A (Biomedical Technology and Human Factors Engineering--Prosthetics and Mechanical Organs); 71O (Materials Sciences--Plastics); 71H (Materials Sciences--Elastomers)

20/5/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

14019434 PMID: 12438000
Mutagenic activity of structurally related oxiranes and siloranes in Salmonella typhimurium.
Schweikl Helmut; Schmalz Gottfried; Weinmann Wolfgang

Department of Operative Dentistry and Periodontology, University of Regensburg, D-93042 Regensburg, Germany. helmut.schweikl@klinik.uni-regensburg.de

Mutation research (Netherlands) Nov 26 2002, 521 (1-2) p19-27, ISSN 0027-5107--Print Journal Code: 0400763
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: INDEX MEDICUS; Toxbib

Ring -opening molecules like oxiranes (epoxides) maybe suitable for the development of non-shrinking **dental** composite materials. Since oxiranes are reactive molecules, they can cause adverse biological effects in living organisms. The introduction of siloranes, a merger of silane and oxirane, may solve this problem. Here, new oxiranes and siloranes were analyzed for the induction of mutations in Salmonella typhimurium (TA97a, TA98, TA100, and TA102), and a reactive oxirane molecule served as a reference. This chemical, epoxy cyclohexyl methyl-epoxy cyclohexane carboxylate (Est-Ep) tested positive in S. typhimurium TA100. The numbers of mutants were about 3-10-fold higher than controls in the presence of a metabolically active S9 fraction isolated from rat liver. Only a weak mutagenic effect was observed after direct testing (without S9). Di(cyclohexene-epoxidemethyl)ether (Eth-Ep) also caused a slight increase of mutant numbers in TA100 both in the presence and absence of S9. In contrast, no effects were detected with the large oxirane molecules, 2,2-bis(4,1- **phenylenoxy** -3,1-propanediyl-3-oxatricyclo [3.2.1.0(2,4)]octylcarboxy) propylidene (Nor-BP-Ep) and 2,2-bis(4,1- **phenylenoxy** -3,1-propanediyl-3,4-epoxycyclo-hexylcarboxylic-acid) propylidene (Est-BP-Ep). As to the siloranes, 1,4-bis(2,3-epoxypropyloxypropyl-dimethylsilyl)-benzene (Phen-Glyc) was a direct mutagen in S. typhimurium TA100 and TA102. This weak but dose-related increase of revertants was even enhanced by S9. Other siloranes, like di-3,4-epoxy cyclohexylmethyl-dimethyl-silane (DiMe-Sil), methyl-bis[2-(7-oxabicyclo[4.1.0]hept-3-yl)phenyl silane (Ph-Sil), and 1,3,5,7-tetrakis(ethyl cyclohexane epoxy)-1,3,5,7-tetramethyl-cyclotetrasiloxane (TET-Sil) tested negative in all S. typhimurium strains. All compounds will be further analyzed for the formation of chromosomal aberrations in mammalian cell cultures.

Descriptors: *Epoxy Compounds--chemistry--CH; *Epoxy Compounds--toxicity --TO; *Ethylene Oxide--chemistry--CH; *Ethylene Oxide--toxicity--TO; *Mutagens--toxicity--TO; *Salmonella typhimurium--drug effects--DE; *Silanes--chemistry--CH; *Silanes--toxicity--TO; Animals; Cyclohexanes --chemistry--CH; Cyclohexanes--toxicity--TO; Dose-Response Relationship, Drug; Mutagenicity Tests; Rats; Research Support, Non-U.S. Gov't; Salmonella typhimurium--genetics--GE; Structure-Activity Relationship
CAS Registry No.: 0 (Cyclohexanes); 0 (Epoxy Compounds); 0 (Mutagens); 0 (Silanes); 0 (di-(3,4-epoxycyclohexylmethyl)dimethylsilane); 0 (epoxy cyclohexyl methyl-epoxy cyclo-hexane carboxylate); 75-21-8 (Ethylene Oxide)
Record Date Created: 20021119
Record Date Completed: 20030117

20/5/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

09289991 PMID: 1629456

Synthesis and evaluation of new oxaspiro monomers for double ring-opening polymerization.

Stansbury J W

Polymers Division, National Institute of Standards and Technology, Gaithersburg, Maryland 20899.

Journal of dental research (UNITED STATES) Jul 1992, 71 (7) p1408-12 , ISSN 0022-0345--Print Journal Code: 0354343

Contract/Grant No.: 01-DE-30001; DE; NIDCR

Publishing Model Print

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Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: DENTAL; INDEX MEDICUS

Polymerization with expansion in volume can be achieved with spiro orthocarbonate monomers through a double **ring** -opening process wherein two bonds are cleaved for each new bond formed. The resulting expansion can be applied to counter the polymerization shrinkage associated with the conventional methacrylate monomers used in **dental** composites and thereby provide formulations with drastically reduced degrees of shrinkage. New monomers have been prepared that exhibit enhanced reactivities and **ring** -opening efficiencies compared with earlier free-radical-polymerizable oxaspiro compounds. In **dental** composite formulations, the monofunctional oxaspiro monomers provided DTS values equivalent to those of the controls under certain curing conditions; however, only modest reductions in polymerization shrinkage were observed. 2,3-Bis(methylene) spiro orthocarbonate monomers with a conjugated diene structure were also synthesized and evaluated. These novel monomers appear to offer significant potential for future development of free-radical **ring** -opening polymerization. While visible-light-cured formulations of the bis(methylene) compounds with methacrylate comonomers did not yield acceptable composite materials in this initial attempt, the high reactivity and the ability to form **rigid** , cross-linked **polymers** make this type of monomer worthy of continued investigation. These properties may allow the bis(methylene) oxaspiro monomers to be used alone or in concert with other **ring** -opening monomers for special applications.

Descriptors: *Polymers--chemical synthesis--CS; *Resins, Synthetic --chemical synthesis--CS; *Spiro Compounds--chemical synthesis--CS; Chemistry, Physical; Composite Resins--chemical synthesis--CS; Composite Resins--chemistry--CH; Evaluation Studies; Materials Testing; Polymers --chemistry--CH; Research Support, U.S. Gov't, P.H.S.; Resins, Synthetic --chemistry--CH; Spiro Compounds--chemistry--CH; Stress, Mechanical; Surface Properties; Tensile Strength

CAS Registry No.: 0 (Composite Resins); 0 (Polymers); 0 (Resins, Synthetic); 0 (Spiro Compounds)

Record Date Created: 19920818

Record Date Completed: 19920818

20/5/6 (Item 2 from file: 6)

DIALOG(R)File 6:NTIS

0824892 NTIS Accession Number: PB80-176894/XAB

Development of Improved Materials for Extraoral Maxillofacial Prostheses

(Final rept. May 74-May 79)

Cowsar, D. R. ; Lewis, D. H. ; Dunn, R. L.
Southern Research Inst., Birmingham, AL.
Corp. Source Codes: 024351000
Sponsor: National Inst. of Dental Research, Bethesda, MD. Office of Collaborative Research.
Report No.: SORI-EAS-79-801; NIDR/CR-80/5
14 Dec 79 108p
Languages: English
Journal Announcement: GRAI8017
See also PB-268 663.
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NTIS Prices: PC A06/MF A01
Country of Publication: United States
Contract No.: N01-DE-4-2435
An **arylene** silicone polymer, polytetramethylsilphenylenesiloxanedimethy lsiloxane was synthesized and formulated as a pourable, viscous, room-temperature-vulcanizing liquid for use in fabricating extraoral maxillofacial prostheses. Silphenylene polymers are colorless and will accept either intrinsic or extrinsic coloration. When mixed with conventional catalysts, the silphenylene vulcanizates can be easily and reliably cast in closed **dental** stone molds to give strong yet soft and pliable prostheses. Typical values for tensile strength, elongation at break, modulus at 100% elongation, and hardness are, respectively, 1400 psi, 1000%, 50 psi and 35 (Shore A). The silphenylene elastomers have an excellent tactual, as well as visual resemblance to skin, and they adhere well to medical tapes and adhesives. Animal tests indicate that the dermal and ocular toxicity of the **components** of the silphenylene clinical kits and the cured elastomer are low. Clinical evaluation showed silphenylene to be an improved prosthetic material with the possibility of widespread use if the tear strength were improved.
Descriptors: *Prosthetic devices; Face(Anatomy); Elastomers; Materials; Silicone resins; Polycarbonates; Fabrication; Vacuum forming; Casting; Mechanical properties; Polyurethane resins; Plastisols
Identifiers: *Maxillofacial prosthesis; *Biomaterials; NTISNIHIDR
Section Headings: 95A (Biomedical Technology and Human Factors Engineering--Prosthetics and Mechanical Organs); 71O (Materials Sciences--Plastics); 71H (Materials Sciences--Elastomers)

20/5/9 (Item 2 from file: 23)
DIALOG(R)File 23:CSA Technology Research Database

0006487133 IP ACCESSION NO: 200403-D6-0076
Composites make large difference in "small" medical, dental applications.

Musselman, M.

Composites Technology, v 9, n 6, p 24-27, Dec. 2003
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ABSTRACT:
Surgical instruments and **dental** restoratives are taking advantage of polymers with glass-fiber and nanomaterial reinforcements. The scissors-like, eight-part composite MIS F4 forceps, designed by Surgical Innovations Group plc (Leeds, UK) is an example of the trend toward minimally invasive surgical instruments whose ergonomic advantages and multi-purpose functionality derive directly from the freedom of design and light weight of glass-reinforced, injection molded plastic **components** . Ticona's (Summit, New Jersey, USA) Fortron **polyphenylene** sulfide (PPS) material was chosen for the application. Hybrid Plastics (Fountain Valley, California) is working with Polyhedral Oligomeric Silsesquioxanes, in its trademarked POSS Nanostructured materials, to develop a **dental** material with greater adhesive properties and durability. They believe that the next wave of composites for **dental** applications is likely to come from the field of nanotechnology.

DESCRIPTORS: **Polyphenylene** sulfides; Glass fiber reinforced plastics; End uses; Medical equipment; Nanomaterials; Dental materials; Materials selection
SUBJ CATG: D6, Composites: Applications and Competitive Materials

24/5/1 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

10788823 EMBASE No: 2000269101
Reinforcement of a self-setting calcium phosphate cement with different fibers
Xu H.H.K.; Eichmiller F.C.; Giuseppetti A.A.
H.H.K. Xu, American Dental Assoc. Hlth. Found., Paffenbarger Research Center, National Inst. of Standards/Technol., 100 Bureau Drive, Gaithersburg, MD 20899-8546 United States
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Journal of Biomedical Materials Research (J. BIOMED. MATER. RES.) (United States) 01 AUG 2000, 52/1 (107-114)
CODEN: JBMRB ISSN: 0021-9304
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 45

A water-based calcium phosphate cement (CPC) has been used in a number of medical and **dental** procedures due to its excellent osteoconductivity and bone replacement capability. However, the low tensile strength of CPC prohibits its use in many unsupported defects and stress-bearing locations. Little investigation has been carried out on the fiber reinforcement of CPC. The aims of the present study, therefore, were to examine whether fibers would strengthen CPC, and to investigate the effects of fiber type,

fiber length, and volume fraction. Four different fibers were used: aramid, carbon, E-glass, and polyglactin. Fiber length ranged from 3-200 mm, and fiber volume fraction ranged from 1.9-9.5%. The fibers were mixed with CPC paste and placed into molds of 3 x 4 x 25 mm. A flexural test was used to fracture the set specimens and to measure the ultimate strength, work-of-fracture, and elastic modulus. Scanning electron microscopy was used to examine specimen fracture surfaces. Fiber type had significant effects on composite properties. The composite **ultimate strength** in **MPa** (mean +/- SD; n = 6) was (62 +/- 16) for aramid, (59 +/- 11) for carbon, (29 +/- 8) for E-glass, and (24 +/- 4) for polyglactin, with 5.7% volume fraction and 75 mm fiber length. In comparison, the strength of **unreinforced** CPC was (13 +/- 3). Fiber length also played an important role. For composites containing 5.7% aramid fibers, the ultimate strength was (24 +/- 3) for 3 mm fibers, (36 +/- 13) for 8 mm fibers, (48 +/- 14) for 25 mm fibers, and (62 +/- 16) for 75 mm fibers. At 25 mm fiber length, the ultimate strength of CPC composite was found to be linearly proportional to fiber strength. In conclusion, a self-setting calcium phosphate cement was substantially strengthened via fiber reinforcement. Fiber length, fiber volume fraction, and fiber strength were found to be key microstructural parameters that controlled the mechanical properties of CPC composites. (C) 2000 John Wiley and Sons, Inc.

DEVICE BRAND NAME/MANUFACTURER NAME: Kevlar 49/Du Pont/United States; AS4-12K/Hercules Powder/United States
DEVICE MANUFACTURER NAMES: Du Pont/United States; Hercules Powder/United States; Owens Corning/United States; Ethicon/United States
DRUG DESCRIPTORS:
*calcium phosphate; *cement; *aromatic **polyamide** ; *carbon fiber; * polyglactin
MEDICAL DESCRIPTORS:
*biomedical engineering
tensile strength; young modulus; mechanical stress; article
CAS REGISTRY NO.: 10103-46-5, 13767-12-9, 14358-97-5, 7758-87-4 (calcium phosphate); 26780-50-7, 34346-01-5 (polyglactin)
SECTION HEADINGS:
027 Biophysics, Bioengineering and Medical Instrumentation

27/5/5 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal

15413167 PASCAL No.: 02-0104207
Acrylate-terminated macromonomers by Michael addition
MUEH Ekkehard; WEICKMANN Hans; KLEE Joachim E; FREY Holger; MUELHAUPT Rolf
Institut fuer Makromolekulare Chemie und Freiburger Materialforschungszentrum der Albert-Ludwigs-Universitaet, Stefan-Meier-Str. 21/31, 79104 Freiburg i. Br, Germany; Dentsply DeTrey GmbH, De-Trey-Str. 1, 78467 Konstanz, Germany
Journal: Macromolecular chemistry and physics : (Print), 2001, 202 (18) 3484-3489
ISSN: 1022-1352 Availability: INIST-4111; 354000103516910050
No. of Refs.: 14 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: Germany
Language: English

A series of diacrylate macromonomers bearing alkoxysilyl units was prepared by convenient Michael addition of aminopropyl methyl diethoxysilane to 1,2-ethylene glycol diacrylate (EGDA), p- **phenylene** di-acrylate (PDA) and 1,4-cyclohexanediol diacrylate (CHDA). The resulting macromonomers have been characterized in detail by NMR spectroscopy, vapor pressure osmometry (VPO) measurements and fast-atom bombardment mass spectroscopy (FAB-MS). Average molecular weights Mn ranged between 530 and 1300 g . mol SUP - SUP 1 (VPO). FAB-MS and size exclusion chromatography (SEC) showed the formation of a homologous macromonomer series. Viscosities of the liquid monomers are relatively low, ranging from 0.082 to 8.30 Pa . s. This renders these compounds interesting as reactive diluents in **dental** composite formulations. Upon polymerization of the macromonomers, low volumetric shrinkage occured, which was in the range of DELTA V=2.4 and 3.9 vol-% at high conversion. Crosslinking was monitored by photo-differential scanning calorimetry (photo-DSC). Furthermore, composites were prepared by mixing 2,2-bis-(p-(2-hydroxy-3-methacryloxypropoxy)-phenyl)propane (Bis-GMA) with the new macromonomers, initiator and glass filler. The composites showed compressive strengths up to 244 MPa, flexural strengths from 22 to 42 **MPa** and **Young** 's **moduli** between 870 and 3070 **MPa** . The composite materials exhibited low volume shrinkage of commercially available composites.

31/5/1 (Item 1 from file: 155)

DIALOG(R)File 155:MEDLINE(R)
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13693290 PMID: 11935506

Effect of dowel space preparation and composite cement thickness on retention of a prefabricated dowel.

Hagge Mark S; Wong Ralan D M; Lindemuth James S
Department of Restorative Dentistry, University of the Pacific School of Dentistry, San Francisco, CA 94115, USA. mhagge@sf.uop.edu

Journal of prosthodontics - official journal of the American College of Prosthodontists (United States) Mar 2002, 11 (1) p19-24, ISSN 1059-941X--Print Journal Code: 9301275
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: DENTAL

PURPOSE: This investigation examined what effect cement thickness had on retention of prefabricated endodontic dowels luted with a composite resin cement (Panavia 21 OP; J Morita, Irvine, CA) into canals previously obturated with gutta percha and a eugenol-based sealer. MATERIALS AND METHODS: Sixty-four single-rooted teeth were decoronated, filed, cleaned, and sequentially shaped with sizes 2-5 Gates Glidden drills (Dentsply/Maillefer, Tulsa, OK) and 0.12 taper rotary instrumentation. Teeth were then divided into 4 groups of 16 specimens each. All specimens were obturated with gutta percha and a eugenol-based sealer. Dowel space preparation and dowel cementation were completed 1 week after obturation. Ten-millimeter-deep dowel spaces were prepared using dowel drills with 4 different diameters: size 5 Parapost drill (Group 1; Coltene/Whaledent,

Mahwah, NJ); size 5.5 Parapost drill (Group 2; Coltene/Whaledent); size 6 Gates Glidden drill (Group 3; Dentsply/Maillefer); size 6 Parapost drill (Group 4; Coltene/Whaledent). Size 5 Paraposts were then cemented with Panavia 21 OP. After 48 hours of storage, specimens were mounted in **polyvinyl chloride** (PVC) pipe with acrylic, and the dowels were removed in tensile mode using a universal testing machine at 1 mm/min, with data recorded in kilograms. RESULTS: (all values in kilograms) Group 1 (Parapost 5) mean = 15.07, 95% confidence interval (CI) = +/-6.11; Group 2 (Parapost 5.5) mean = 25.60, 95% CI = +/-7.39; Group 3 (Gates-Glidden 6) mean = 43.15, 95% CI = +/-7.81; Group 4 (Parapost 6) mean = 37.75, 95% CI = +/-6.35. Analysis of variance and Bonferroni tests revealed that Group 3 had significantly greater mean retention strength values than Group 1 and Group 2 ($p < .05$), and that Group 4 had significantly greater mean retention strength values than Group 1 ($p < .05$). CONCLUSIONS: Paraposts cemented with Panavia 21 OP showed significantly greater retention in oversized dowel spaces compared with dowel spaces prepared with the manufacturers' matched dowel-drill set.

Descriptors: *Composite Resins--chemistry--CH; * **Dental** Prosthesis Retention; *Post and Core Technique; *Resin Cements--chemistry--CH; *Tooth Preparation, **Prosthodontic** --methods--MT; Analysis of Variance; Cementation; Comparative Study; Confidence Intervals; **Dental** Bonding; Dentin-Bonding Agents--chemistry--CH; Eugenol--therapeutic use--TU; Gutta-Percha--therapeutic use--TU; Humans; Humidity; Materials Testing; Phosphates--chemistry--CH; Post and Core Technique--instrumentation--IS; Research Support, Non-U.S. Gov't; Root Canal Filling Materials--therapeutic use--TU; Root Canal Obturation; Root Canal Preparation; Statistics; Surface Properties; Temperature; **Tensile Strength** ; Time Factors; Tooth Preparation, **Prosthodontic** --instrumentation--IS

CAS Registry No.: 0 (Composite Resins); 0 (Dentin-Bonding Agents); 0 (Panavia TPN-S); 0 (Phosphates); 0 (Resin Cements); 0 (Root Canal Filling Materials); 9000-32-2 (Gutta-Percha); 97-53-0 (Eugenol)

Record Date Created: 20020405

Record Date Completed: 20020724

31/5/2 (Item 2 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

13617411 PMID: 11823021

Long-term tensile bond durability of two different 4-META containing resin cements to dentin.

Kitasako Y; Burrow M F; Nikaido T; Tagami J

Cariology and Operative Dentistry, Department of Restorative Sciences, Tokyo Medical and Dental University, 5-45 Yushima 1-chome, Bunkyo-ku, Tokyo 113-8549, Japan. y.kitasako.odont@dent.tmd.ac.jp

Dental materials - official publication of the Academy of Dental Materials (England) May 2002, 18 (3) p276-80, ISSN 0109-5641--Print

Journal Code: 8508040

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: DENTAL

OBJECTIVES: This study was conducted to evaluate the tensile bond durability of two different types of 4-META containing resin cements over a

period of 3 years. METHODS: Ten bovine dentin specimens were tested for tensile bond strengths with each of the following materials: Super Bond C&B: unfilled methyl methacrylate (MMA)/polymethyl methacrylate (PMMA) resin cement, MASA Bond (experimental material): filled dimethacrylate resin cement at 1 day, 6 months, 1 and 3 years. The mean bond strengths were compared statistically by two-way ANOVA and Fisher's PLSD test ($P<0.05$). The mode of failure was classified by SEM observation. Results for the mode of fracture were analyzed using the Mann-Whitney U test. RESULTS: Although there was no statistical difference in mean bond strength between Super Bond C&B and MASA Bond ($P>0.05$) during the experimental periods, the 1-day bond strengths were significantly greater than those at the other experimental periods except for 6 months ($P<0.05$). Regarding the fracture modes, at 6 months and 1 year, statistical differences were observed between Super Bond C&B and MASA Bond ($P<0.05$). SIGNIFICANCE: The bond strengths of both resin cements to dentin significantly decreased after 6 months, and the long-term failure patterns of the 4-META/TBB resin cements showed a marked change.

Descriptors: ***Dental** Bonding; *Dentin--ultrastructure--UL; *Dentin-Bonding Agents--chemistry--CH; *Methacrylates--chemistry--CH; *Resin Cements--chemistry--CH; Aminosalicylic Acids--chemistry--CH; Analysis of Variance; Animals; Boron Compounds--chemistry--CH; Butadienes --chemistry--CH; Cattle; Comparative Study; Materials Testing; Methylmethacrylate--chemistry--CH; Methylmethacrylates--chemistry--CH; Micr oscopy, Electron, Scanning; Polymethyl Methacrylate--chemistry--CH; **Polystyrenes** --chemistry--CH; Statistics; Statistics, Nonparametric; Surface Properties; **Tensile Strength** ; Time Factors

CAS Registry No.: 0 (Aminosalicylic Acids); 0 (Boron Compounds); 0 (Butadienes); 0 (Dentin-Bonding Agents); 0 (Methacrylates); 0 (Methylmethacrylates); 0 (Polystyrenes); 0 (Resin Cements); 0 (styrene-butadiene-styrene triblock copolymer); 122-56-5 (tri-n-butylbora ne); 53193-87-6 (N-methacryloyl-5-aminosalicylic acid); 70293-55-9 (4-methacryloxyethyltrimellitic acid anhydride); 80-62-6 (Methylmethacryl ate); 9011-14-7 (Polymethyl Methacrylate); 95508-14-8 (Super-bond)

Record Date Created: 20020201

Record Date Completed: 20020802

31/5/3 (Item 3 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

12695447 PMID: 10783453

Mechanical and biomechanical measurements of five currently available osteosynthesis systems of self-tapping screws.

Saka B

Rostock University, Department of Craniomaxillofacial Surgery, Germany.

British journal of oral & maxillofacial surgery (SCOTLAND) Feb 2000, 38 (1) p70-5, ISSN 0266-4356--Print Journal Code: 8405235

Publishing Model Print

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Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: DENTAL; INDEX MEDICUS

Pressure force, uniaxial 'pullout', minimum torque, and peak torque tests were done to evaluate the effectiveness of three popular monocortical and non-compressing self-tapping screw systems 2 mm in diameter (Champy,

Centre-Drive, and Wuerzburger) and two systems 1.5 mm in diameter (Champy and Wuerzburger). The screw systems were all tested on polyvinylchloride plate, skull, and molar mandibular bone from fresh human cadavers. The Champy screw 2 mm in diameter and 7 mm long produced the highest pressure force (mean (SD) 153.4 (58.5) N, n=40) of the systems tested. The Centre-Drive screw of the same size showed the highest retentive force in pullout tests (619.5 (169.9) N, n=40) and also the largest difference between minimum and peak torque in skull and molar mandibular bone (1.86 (0.65) kpcm, n=40). This was clinically relevant compared with reported human bite-force (range 216-740 N). The results showed that, the screw diameter and number of threads were the most important and significant of the mechanical variables tested. The skull bone also exerted more retentive force than the molar mandibular bone. The overall data indicate that there is no need to use screws more than 7 mm long or wider than 2 mm in diameter for monocortical non-compressive osteosynthesis in the craniofacial and the mandibular region.

Descriptors: *Bone Screws; * **Dental** Stress Analysis; *Jaw Fixation Techniques--instrumentation--IS; Biomechanics; Bone Plates; Comparative Study; Elasticity; Equipment Design; Humans; Mandible; Materials Testing; **Polyvinyl Chloride** ; Pressure; Skull; **Tensile Strength** ; Torque

CAS Registry No.: 9002-86-2 (Polyvinyl Chloride)

Record Date Created: 20000609

Record Date Completed: 20000609

31/5/4 (Item 4 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

10905475 PMID: 8731218

Radiation-induced graft copolymer SBS-g-VP for biomaterial usage.

Yang J M; Hsiue G H

Department of Chemical Engineering, Chang Gung College of Medicine and Technology, Taiwan, ROC.

Journal of biomedical materials research (UNITED STATES) Jun 1996, 31 (2) p281-6, ISSN 0021-9304--Print Journal Code: 0112726

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

The grafting of 4-vinyl pyridine (VP) to styrene-butadienestyrene triblock copolymer (SBS) by radiation-induced graft copolymerization was studied. The cohesive properties such as cohesive energy (Ecoh), molar volume (V), solubility parameter (delta), molar molecular weight (WM), specific volume (Vg), and density (1/Vg) of SBS-g-VP graft copolymer were calculated according to the group contribution of Fedors. The morphology of SBS-g-VP was studied by optical polarizing microscopy. We also measured the glass transition temperature and the mechanical properties of SBS-g-VP graft copolymer. Contact angle and blood-clotting time experiments were also performed to evaluate the biocompatibility of SBS-g-VP. A second domain was found in the SBS-g-VP graft copolymer, which resulted in different properties between SBS-g-VP and SBS. The blood compatibility of SBS-g-VP as measured by the Lee-White clotting test was better than that of SBS and **polystyrene** .

Descriptors: *Biocompatible Materials; *Blood Coagulation; *Butadienes; *

Polystyrenes ; *Prostheses and Implants; *Pyridines; Blood Coagulation Tests; Calorimetry, Differential Scanning; **Dental** Implants; Elasticity; Gamma Rays; Humans; Molecular Weight; **Polystyrenes** --radiation effects--RE ; Pyridines--radiation effects--RE; Research Support, Non-U.S. Gov't; **Tensile Strength**

CAS Registry No.: 0 (Biocompatible Materials); 0 (Butadienes); 0 (Dental Implants); 0 (Polystyrenes); 0 (Pyridines); 0 (SBS-g-VP copolymer); 0 (styrene-butadiene-styrene triblock copolymer); 100-43-6 (4-vinylpyridine)

Record Date Created: 19961202

Record Date Completed: 19961202

31/5/5 (Item 5 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

10769646 PMID: 8809248

The effect of tray material and surface condition on the shear bond strength of impression materials.

Wang R R; Nguyen T; Boyle A M

Department of Restorative Dentistry, School of Dentistry, Case Western Reserve University, Cleveland, Ohio, USA.

Journal of prosthetic dentistry (UNITED STATES) Nov 1995, 74 (5) p449-54, ISSN 0022-3913--Print Journal Code: 0376364

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: DENTAL; INDEX MEDICUS

This study compared the adhesive shear bond strength of three selected impression **materials** with that of **thermoplastic** and acrylic resin tray materials as a function of surface preparation. Polyether (Impregum), polyvinylsiloxane (Reprosil), and polysulfide (Permlastic) impression materials were evaluated on smooth, rough, and contaminated tray surfaces. Smooth surface samples were formed against glass and served as the control groups. Experimental groups consisted of samples contaminated with artificial saliva and rough surface samples that were abraded with 110 microns of Al203. A total of 126 samples were subdivided into 18 groups of seven specimens each. Each sample consisted of a 1 inch square, 3 mm thick mass of an impression material sandwiched between the prepared surfaces of a pair of resin plates. Each specimen was tested in a universal testing machine for adhesive shear bond strength. Data were analyzed with three-way analysis of variance and Scheffe's test. The results indicated that the **thermoplastic** resin **material** had better adhesive properties than the acrylic resin. For both tray materials mean adhesive shear bond strengths for Impregum and Reprosil were significantly greater than those of Permlastic. Tray surface contaminated with saliva decreased the adhesive shear strength at the tray adhesive impression interface.

Descriptors: ***Dental** Bonding; * **Dental** Impression Materials--chemistry --CH; * **Dental** Impression Technique--instrumentation--IS; * **Dental** Materials--chemistry--CH; Acrylic Resins--chemistry--CH; Adhesiveness; Aluminum Oxide; Analysis of Variance; Comparative Study; **Dental** Stress Analysis--instrumentation--IS; Glass; Plastics--chemistry--CH; Polyvinyls --chemistry--CH; Resins, Synthetic--chemistry--CH; Saliva, Artificial --chemistry--CH; Siloxanes--chemistry--CH; Stress, Mechanical; Sulfides

--chemistry--CH; Surface Properties; **Tensile Strength**
CAS Registry No.: 0 (Acrylic Resins); 0 (Dental Impression Materials); 0 (Dental Materials); 0 (Glass); 0 (Impregum); 0 (Plastics); 0 (Polyvinyls); 0 (Resins, Synthetic); 0 (Saliva, Artificial); 0 (Siloxanes); 0 (Sulfides); 0 (vinyl polysiloxane); 1344-28-1 (Aluminum Oxide); 9080-49-3 (polysulfide)
Record Date Created: 19961031
Record Date Completed: 19961031

31/5/6 (Item 6 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

10745503 PMID: 8778378
Bond strength of two nonaqueous elastomeric impression materials **bonded to two** thermoplastic **resin tray** materials .
Payne J A; Pereira B P
Department of Restorative Dentistry, University of Otago, Dunedin, New Zealand.
Journal of prosthetic dentistry (UNITED STATES) Dec 1995, 74 (6) p563-8, ISSN 0022-3913--Print Journal Code: 0376364
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: DENTAL; INDEX MEDICUS
Investigations indicate that custom impression trays enhance the accuracy of the fabrication cast. Multiple materials and techniques exist for custom tray fabrication, and variability in the bonding strength of adhesive agents supplied with nonaqueous elastomeric material have been reported. Bonding between two nonaqueous impression **materials** and two **thermoplastic** resin tray **materials** was assessed in this study. Standard tensile specimens were fabricated and the combinations of Hydrotray resin (smooth) with Hydrosil impression material recorded the greatest bonding strength, 797 kPa. Adhesion to resin tray materials was found to vary with material type and surface preparation.
Descriptors: ***Dental** Bonding; * **Dental** Impression Materials--chemistry --CH; * **Dental** Impression Technique--instrumentation--IS; *Resins, Synthetic--chemistry--CH; *Silicone Elastomers--chemistry--CH; Adhesiveness ; Adhesives--chemistry--CH; Analysis of Variance; Comparative Study; Materials Testing; Reproducibility of Results; Surface Properties; **Tensile Strength**
CAS Registry No.: 0 (Adhesives); 0 (Dental Impression Materials); 0 (Resins, Synthetic); 0 (Silicone Elastomers)
Record Date Created: 19960916
Record Date Completed: 19960916

31/5/8 (Item 8 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

09907008 PMID: 8306603
A basic study of a new adhesive lining cement applied emulsion of hydrophobic polymer.

Umemoto K; Kurata S; Yamazaki N
Department of Dental Materials, Kanagawa Dental College, Japan.
Dental materials journal (JAPAN) Jun 1993, 12 (1) p29-35, ISSN 0287-4547--Print Journal Code: 8309299
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: DENTAL

To diminish the effect of water on the adhesive durability of lining cement, an experimental lining cement using a hydrophobic polymer as the cement liquid was studied. The polymers were styrene-butadien-alkyl acrylate copolymer (SBA copolymer) and carboxylated styrene-butadien-alkyl acrylate copolymer (CSBA copolymer) and were used as aqueous emulsions. The cement powder consisted of alkaline silicate and calcium disilicate. The pH values of the immersion water of the cement prepared from emulsion of SBA copolymer (SBA cement) was almost the same as that of calcium hydroxide cement. The compressive and diametral tensile strengths of SBA cement gradually increased over time in water. The bond strengths of cement prepared from the CSBA copolymer emulsion containing five percent carboxyl groups by weight were superior to those of calcium hydroxide cement.

Descriptors: *Acrylic Resins--chemistry--CH; * **Dental** Bonding; * **Dental** Cavity Lining; * **Dental** Cements--chemistry--CH; * **Polystyrenes** --chemistry--CH; Animals; Cattle; Comparative Study; Hydrogen-Ion Concentration; Materials Testing; **Tensile Strength** ; Water

CAS Registry No.: 0 (Acrylic Resins); 0 (CSBA copolymer); 0 (Dental Cements); 0 (Polystyrenes); 0 (SBA copolymer); 7732-18-5 (Water)

Record Date Created: 19940314
Record Date Completed: 19940314

31/5/11 (Item 11 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

09327744 PMID: 1507140

The bond strength of elastomer tray adhesives to thermoplastic and acrylic resin tray materials.

Hogans W R; Agar J R
Walter Reed Army Medical Center, Washington, D.C.
Journal of prosthetic dentistry (UNITED STATES) Apr 1992, 67 (4) p541-3, ISSN 0022-3913--Print Journal Code: 0376364
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: DENTAL; INDEX MEDICUS

This study evaluated the bond strength of selected impression materials (Permlastic, Express, and Hydrosil) to a **thermoplastic** custom tray **material** as a function of drying time of the adhesive after application to a tray material. In addition, bond strengths of a polysulfide impression material to an acrylic resin tray **material** and to a **thermoplastic** tray **material** made directly against wax were evaluated. Bond strengths were obtained directly from values of applied load at failure and important conclusions were drawn.

Descriptors: *Acrylic Resins--chemistry--CH; *Adhesives--chemistry--CH; * **Dental** Bonding; * **Dental** Impression Materials--chemistry--CH; * **Dental** Impression Technique--instrumentation--IS; *Plastics--chemistry--CH; *Rubber--chemistry--CH; **Dental** Stress Analysis; Materials Testing; Stress, Mechanical; Sulfides--chemistry--CH; Surface Properties; **Tensile Strength** ; Time Factors

CAS Registry No.: 0 (Acrylic Resins); 0 (Adhesives); 0 (Dental Impression Materials); 0 (Plastics); 0 (Sulfides); 9006-04-6 (Rubber) ; 9080-49-3 (polysulfide)

Record Date Created: 19920922

Record Date Completed: 19920922

31/5/12 (Item 12 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

09104886 PMID: 1805022

Properties of the tray adhesive of an addition polymerizing silicone to impression tray materials.

Sulong M Z; Setchell D J

Department of Conservation, University of Malaya, Faculty of Dentistry, Kuala Lumpur.

Journal of prosthetic dentistry (UNITED STATES) Dec 1991, 66 (6) p743-7, ISSN 0022-3913--Print Journal Code: 0376364

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: DENTAL; INDEX MEDICUS

Adhesive bond strength studies for the tray adhesive of an addition vinyl polysiloxane (President) impression material were conducted with an acrylic resin, chromium-plated brass, and plastic trays. **Tensile** and shear **stress** studies were performed on the Instron Universal testing machine. Acrylic resin specimens roughened with 80-grit silicon carbide paper exhibited appreciably higher bond strengths compared with different types of tray material and methods of surface preparation.

Descriptors: *Acrylic Resins--chemistry--CH; *Adhesives--chemistry--CH; *Carbon Compounds, Inorganic; * **Dental** Impression Materials--chemistry--CH ; * **Dental** Impression Technique--instrumentation--IS; *Polyvinyls --chemistry--CH; *Silicon Compounds; *Siloxanes--chemistry--CH; Alloys --chemistry--CH; Carbon--chemistry--CH; Chromium--chemistry--CH; Comparativ e Study; Copper--chemistry--CH; **Dental** Bonding; **Dental** Stress Analysis; Materials Testing; **Polystyrenes** --chemistry--CH; Silicon--chemistry--CH; Stress, Mechanical; Surface Properties; **Tensile Strength** ; Zinc --chemistry--CH

CAS Registry No.: 0 (Acrylic Resins); 0 (Adhesives); 0 (Alloys); 0 (Carbon Compounds, Inorganic); 0 (Dental Impression Materials); 0 (Polystyrenes); 0 (Polyvinyls); 0 (Silicon Compounds); 0 (Siloxanes) ; 0 (vinyl polysiloxane); 12597-71-6 (brass); 409-21-2 (silicon carbide); 7440-21-3 (Silicon); 7440-44-0 (Carbon); 7440-47-3 (Chromium); 7440-50-8 (Copper); 7440-66-6 (Zinc)

Record Date Created: 19920506

Record Date Completed: 19920506

31/5/13 (Item 13 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

09065912 PMID: 1774680
Adhesive properties of several impression material systems: Part I.
Chai J Y; Jameson L M; Moser J B; Hesby R A
Department of Restorative Dentistry, Northwestern University, Dental School, Chicago, Ill.
Journal of prosthetic dentistry (UNITED STATES) Aug 1991, 66 (2) p201-9, ISSN 0022-3913--Print Journal Code: 0376364
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: DENTAL; INDEX MEDICUS
The **tensile** adhesive bond **strength** of five impression adhesive systems was studied: polysulfide, polyether, polyvinylsiloxane, condensation silicone impression, and polyvinylsiloxane putty adhesive systems. Results showed no significant difference in adhesive bond strength to autopolymerizing acrylic resin between the former four impression materials studied. Polyether and medium-viscosity polyvinylsiloxane demonstrated significantly higher adhesive bond strength to **polystyrene** than either polysulfide or condensation silicone. The medium-viscosity polyvinylsiloxane impression material showed significantly higher adhesive bond strength to **polystyrene** than autopolymerizing acrylic resin whereas polysulfide and condensation silicone impression materials adhered significantly better to autopolymerizing acrylic resin than **polystyrene** . The polyvinylsiloxane putty did not adhere to its impression adhesive. Variation of the speed of tensile testing between 5 to 20 inches per minutes did not affect the adhesive bond strength of a polysulfide impression material.
Descriptors: ***Dental** Bonding; * **Dental** Impression Materials--chemistry --CH; Adhesiveness; Analysis of Variance; Comparative Study; Humans; Polyvinyls--chemistry--CH; Resins, Synthetic--chemistry--CH; Silicone Elastomers--chemistry--CH; Siloxanes--chemistry--CH; Sulfides--chemistry --CH; **Tensile Strength** ; Viscosity
CAS Registry No.: 0 (Dental Impression Materials); 0 (Impregum); 0 (Polyvinyls); 0 (Resins, Synthetic); 0 (Silicone Elastomers); 0 (Siloxanes); 0 (Sulfides); 0 (vinyl polysiloxane); 9080-49-3 (polysulfide)
Record Date Created: 19920302
Record Date Completed: 19920302

31/5/14 (Item 14 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

08764138 PMID: 2134817
[A novel reactive polymer bonding composite resin to ground tooth substrates]
Kinoshita T
Division of Organic Materials, Institute for Medical and Dental Engineering, Tokyo Medical and Dental University.
Shika zairyo, kikai = Journal of the Japanese Society for Dental

Materials and Devices (JAPAN) Jan 1990, 9 (1), p86-101, ISSN 0286-5858 --Print Journal Code: 8502723
Publishing Model Print
Document type: Journal Article ; English Abstract
Languages: JAPANESE
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: DENTAL

Methyl methacrylate (MMA)-p-styrene sulfonic acid copolymer (MS) was prepared and its adhesion to ground tooth substrates was evaluated. MS is crosslinked with Ca2+ supplied by hydroxyapatite in the smeared layer on the ground enamel and dentin, and sticks to their surface. The adhesion mechanism of MS is quite different from that of interpenetration and polymerization of monomers. The bonding strength of MMA-TBB resin to the tooth treated with an aqueous solution of MS was 11-12 MPa but that of MMA-BPO.DMPT resin was only 2.5 M Pa. Free sulfonic acids remaining in the immobilized MS disturbed the initiation of polymerization in MMA-BPO.DMPT resin. A photocurable liner, triethylene glycol dimethacrylate (TEGDMA) activated by d,l-comphorquinone (CQ), N-phenylglycine (NPG), which was polymerized in an acidic condition by irradiation, was chosen to obtain a high bond strength to the cross-linked MS on the tooth. The bond strength of TEGDMA-CQ.NPG on the tooth treated with an aqueous mixture of 10 wt% MS 7 (MMA: 70 mol%, p-styrene sulfonic acid: 30 mol%) and FeCl3 ([Fe3+]/[SO3-] = 0.28) was 10-11 MPa. The observation of the fractured surface after the tensile test and interface between precipitated MS and tooth indicated that the liner did not interpenetrate into the dentin through the immobilized MS on the tooth. These results indicated that the polymer reaction of MS with Ca2+ was important in the adhesion. In conclusion, MS is a reactive polyelectrolyte which adheres well to tooth substrates and prevents pulp irritation by hindering the penetration of the monomer.

Descriptors: *Composite Resins--pharmacology--PD; *Methylmethacrylates --pharmacology--PD; * **Polystyrenes** --pharmacology--PD; *Smear Layer; Adhesiveness; Animals; Cattle; Composite Resins--chemistry--CH; **Dental** Enamel--drug effects--DE; Dentin--drug effects--DE; Dentin --ultrastructure--UL; English Abstract; Materials Testing; Methylmethacrylates--chemistry--CH; Polyethylene Glycols--chemistry--CH; Polyethylene Glycols--pharmacology--PD; Polymethacrylic Acids--chemistry --CH; Polymethacrylic Acids--pharmacology--PD; **Polystyrenes** --chemistry --CH; **Tensile Strength**
CAS Registry No.: 0 (Composite Resins); 0 (Methylmethacrylates); 0 (Polyethylene Glycols); 0 (Polymethacrylic Acids); 0 (Polystyrenes); 109-16-0 (triethylene glycol dimethacrylate); 25034-86-0 (styrene-methylmethacrylate copolymer)
Record Date Created: 19920507
Record Date Completed: 19920507

31/5/15 (Item 15 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

08764129 PMID: 2134808

[On mechanical behavior of molecular composite resins reinforced with polyaramides. Molecular motion of Oct-PPTA and Ste-PPTA and thermal properties and dynamic viscoelasticity of Oct-PPTA-PMMA and Ste-PPTA-PMMA]

Higuchi S
Department of Dental Materials, Kanagawa Dental College.

Shika zairyo, kikai = Journal of the Japanese Society for Dental Materials and Devices (JAPAN) Jan 1990, 9 (1) p1-10, ISSN 0286-5858--Print Journal Code: 8502723
Publishing Model Print
Document type: Journal Article ; English Abstract
Languages: JAPANESE
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: DENTAL

Molecular composites, composed of polymethylmethacrylate (PMMA) resin as matrix reinforced with polyaramides as a rigid core molecule have been developed to produce a denture base polymer with improved **dental** material properties. N-substituted polyaramides were prepared via metalation using sodium methylsulfinylcarbanion, followed by the reaction with corresponding octyl bromide and/or stearyl bromide in dimethyl sulfoxide. In these molecular composite resins (called Oct-PPTA-PMMA and Ste-PPTA-PMMA short) compounding 3 wt% of N-octylated-PPTA (Oct-PPTA) and/or N-stearylated-PPTA (Ste-PPTA) to PMMA, their **dental** material properties were in the order of Oct-PPTA-PMMA greater than Ste-PPTA-PMMA greater than or equal to PMMA. Their polymer properties were analyzed to molecular level, using nuclear magnetic resonance (NMR) spectroscopy, thermogravimetric (TG) analysis and dynamic mechanical thermal analysis (DMTA). The molecular motion of the methyl group of Oct-PPTA proved to be constrained for the rigid main chain by T1 (inversion recovery method) NMR spectra in CDCl3 while that of Ste-PPTA was not affected. The thermal properties of the composites were in the order of Oct-PPTA-PMMA greater than Ste-PPTA-PMMA greater than PMMA by TG analysis, and the dynamic storage modulus values were Oct-PPTA-PMMA greater than Ste-PPTA-PMMA greater than PMMA in the region from rubbery state to viscous flow state by DMTA.

Descriptors: *Composite Resins--chemistry--CH; *Denture Bases; *Methylmethacrylates--chemistry--CH; *Phthalic Acids--chemistry--CH; *Plasticizers--chemistry--CH; *Polymers--chemistry--CH; Elasticity; English Abstract; Magnetic Resonance Spectroscopy; Materials Testing; **Tensile Strength** ; Thermal Conductivity; Thermogravimetry; Viscosity

CAS Registry No.: 0 (Composite Resins); 0 (Methylmethacrylates); 0 (Phthalic Acids); 0 (Plasticizers); 0 (Polymers); 0 (poly(4-phenylene terephthalamide))

Record Date Created: 19920507
Record Date Completed: 19920507

31/5/16 (Item 16 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

08372147 PMID: 2489606
[Bonding of MMA-BPO. DMPT resin to bovine tooth coated by poly (methyl methacrylate-co-p-styrene sulfonic acid)]
Kinoshita T; Yamamoto T; Nagata K; Nakabayashi N
Shika zairyo, kikai = Journal of the Japanese Society for Dental Materials and Devices (JAPAN) Nov 1989, 8 (6) p922-9, ISSN 0286-5858--Print Journal Code: 8502723
Publishing Model Print
Document type: Journal Article ; English Abstract
Languages: JAPANESE
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Subfile: DENTAL
The objective of this study was to prepare a new type water-soluble bonding agent, methyl methacrylate (MMA)-p-styrene sulfonic acid copolymer (MS), and to investigate the effect of MS on bonding between resins and tooth substrates. MS is cross-linked with Ca2+ released from ground enamel and dentin and could be immobilized on their surface. A sample was prepared by bonding an acrylic rod with a BPO-amine catalyzed self-curing resin to ground enamel and dentin coated with an aqueous mixture of FeCl3 and 10 wt% MS. After immersion in water for 24 hrs, the **tensile** bond **strength** was measured. The bond strength to both enamel and dentin was only 2 MPa and adhesive failure occurred at the interface between cured MS and self-curing resin. This suggested that cured MS could adversely effect the polymerization of self-curing resins. A second treatment of cured MS on the tooth surface with metallic cations was carried out to minimize the amount of free sulfonic acids in the MS disturbing radical formation in self-curing resin. The second treatment improved the bond strength to 6 MPa.
Descriptors: *Adhesives--chemistry--CH; * **Dental** Bonding; Acrylic Resins --chemistry--CH; Animals; Cattle; Comparative Study; **Dental** Enamel; Dentin--ultrastructure--UL; English Abstract; Methylmethacrylates --chemistry--CH; **Polystyrenes** --chemistry--CH; Sulfonium Compounds --chemistry--CH; **Tensile Strength**
CAS Registry No.: 0 (Acrylic Resins); 0 (Adhesives); 0 (Methylmethacrylates); 0 (Polystyrenes); 0 (Sulfonium Compounds); 28210-41-5 (polystyrene sulfonic acid); 7314-30-9 (dimethylpropiothetin)
Record Date Created: 19910620
Record Date Completed: 19910620

31/5/17 (Item 17 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

08372146 PMID: 2489605
[Bonding of MMA-TBB resin to bovine tooth coated by poly (methyl methacrylate-co-p-styrene sulfonic acid)]
Kinoshita T; Yamamoto T; Ishihara K; Nagata K; Nakabayashi N
Shika zairyo, kikai = Journal of the Japanese Society for Dental Materials and Devices (JAPAN) Nov 1989, 8 (6) p913-21, ISSN 0286-5858 --Print Journal Code: 8502723
Publishing Model Print
Document type: Journal Article ; English Abstract
Languages: JAPANESE
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: DENTAL
The objective of this study was to prepare a new type water soluble bonding agent, methyl methacrylate (MMA)-p-styrene sulfonic acid copolymer (MS), and to investigate the effect of MS on bonding between resins and tooth substrates. MS is cross-linked with Ca2+ supplied by hydroxyapatite in a smeared layer on ground enamel and dentin and sticks to their surface. Samples were prepared by bonding an acrylic rod with MMA-TBB resin to ground enamel and dentin coated with an aqueous mixture of FeCl3 and 10 wt% MS. After immersed in water for 24 hrs, the **tensile** bond **strength** was measured. The bond strengths to both enamel and dentin were higher than 11 MPa and cohesive failure of cured MMA-TBB resin was observed in every case. This suggested that MS could adhere to tooth substrates with a new bonding

mechanism different from the previously reported mechanism of the monomer interpenetration and polymerization.

Descriptors: ***Dental*** Bonding; Adhesives--chemistry--CH; Animals; Boron Compounds--chemistry--CH; Cattle; ***Dental*** Enamel; Dentin; English Abstract ; Methylmethacrylates--chemistry--CH; ***Polystyrenes*** --chemistry--CH; ***Tensile Strength***

CAS Registry No.: 0 (Adhesives); 0 (Boron Compounds); 0 (Methylmethacrylates); 0 (Polystyrenes); 122-56-5 (tri-n-butylborane); 28210-41-5 (polystyrene sulfonic acid)

Record Date Created: 19910620

Record Date Completed: 19910620

31/5/19 (Item 19 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

04983914 PMID: 454783 Record Identifier: 79209932

Bone bonding through bioadhesives: present status.

Meyer G; Muster D; Schmitt D; Jung P; Jaeger J H

Biomaterials, medical devices, and artificial organs (UNITED STATES) 1979, 7 (1) p55-71, ISSN 0090-5488--Print Journal Code: 0356630

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Other Citation Owner: NASA

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS; SPACE LIFE SCIENCES

Until recently use of adhesives was confined to cases in which glued areas could be pre-treated or at least cleaned. Thus, grease or oil contaminated surfaces could not be joined together by glueing. More recently, some adhesives have been developed which allow previous treatment of greasy surfaces to be avoided. Among these we find epoxy resins, acrylics and polyurethances. These adhesives have been used until now in various industries. We have begun a research program with these products and in aiming to design an adhesive which would enable immediate and strong bone bonding and avoid problems of metallic fixation, this study is a continuation of our previous research. Thus we tested - currently available surgical and ***dental*** adhesives - original mixtures developed in our laboratory. Mechanical assays were performed on bone samples from human femurs in different conditions : dried, cleaned, fresh, or after immersion in physiological solution. They consist essentially of tensile tests on Lhomargy and Zwick's machine wherein the stress is directed perpendicular to the interface. Variations of ***tensile strength*** (in h bar) are related to hardening time and to mixture composition. The specimens are joined together either in monolayers or in multilayers. The use of adequate catalysts ensures setting at room temperature. Torsion tests and fatigue tests are carried out concomitantly. Standardized bevel fermoral osteotomies were performed on mice with a ***dental*** saw after I.P. Nembutal anesthesia in order to test biological tolerance : - for the control group we study the evolution of bone repair after circumferential wiring - for the animals under test, bones are glued together with one of the proposed adhesives. Radiological and histological studies (using classical Azantrichrome staining after demineralization) are carried out at regular time intervals. In the control animals particular attention is paid to the time course of the formation, constitution and evolution of callus. In the

test animals, we can observe callus formation, bone growth into the adhesive material and glue resorption, and look for specific antigenic phenomena. Despite expected improvements, bone glueing remains a challenge and only restricted clinical applications can be proposed.
Descriptors: *Adhesives; *Biocompatible Materials; *Bone Cements; *Bone and Bones--physiology--PH; Animals; Chemistry, Physical; Cyanoacrylates; Epoxy Resins; Methylmethacrylates; Mice; Osteogenesis; Polymers; **Polystyrenes** ; Polyurethanes
CAS Registry No.: 0 (Adhesives); 0 (Biocompatible Materials); 0 (Bone Cements); 0 (Cyanoacrylates); 0 (Epoxy Resins); 0 (Methylmethacrylates); 0 (Polymers); 0 (Polystyrenes); 0 (Polyurethanes)
Record Date Created: 19790925
Record Date Completed: 19790925

31/5/20 (Item 20 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

04390700 PMID: 319222
The future of complete prosthodontics .
Krajicek D D
Journal of prosthetic dentistry (UNITED STATES) Feb 1977, 37 (2) p126-32, ISSN 0022-3913--Print Journal Code: 0376364
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: DENTAL; INDEX MEDICUS
An improved elastomer with an optimum balance of mechanical properties, processability, environmental stability, colorability, and esthetics, for use in fabricating extraoral maxillofacial prostheses, was sought, An **arylene** silicone polymer, polytetramethylsilphenylenesiloxanedimethylsiloxane, was synthesized and formulated as a pourable, viscous, room-temperature-vulcanizing liquid. Silphenylene polymers are colorless and will accept either intrinsic or extrinsic coloration. When mixed with conventional catalysts, the silphenylene vulcanizates can be easily and reliably cast in closed **dental** stone molds to give prostheses that are strong and tough yet soft and pliable. Typical values for **tensile strength** , elongation at break, modulus at 100% elongation, and hardness are, respectively, 1400 psi, 1000 psi, 50 psi, and 35 (Shore A). Since the **arylene** linkages in the silphenylene polymers impart unusually high values of surface energy to these silicone elastomers, they have an excellent tactual as well as visual resemblance to skin, and they adhere well to tapes and adhesives. A preclinical toxicologic evaluation has been completed, and the materials are currently undergoing clinical evaluation.
Descriptors: ***Prosthodontics** ; **Dental** Caries--prevention and control --PC; **Dental** Technicians; **Dentists** --supply and distribution--SD; Dentures; Forecasting; Humans; Jurisprudence; Mouth, Edentulous --epidemiology--EP; Periodontal Diseases--prevention and control--PC; **Prosthodontics** --manpower--MA; United States
Record Date Created: 19770321
Record Date Completed: 19770321

31/5/21 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0014064632 BIOSIS NO.: 200300023351
Comfort-enhancing intraoral dental **radiographic film packet and method for forming same**
AUTHOR: Resch Douglas T (Reprint); Konte Bruce W; Earnhart Edgar G; Richter Edward B; Schwallie Scott H; Merz Gary E; Mcgovern Michael R
AUTHOR ADDRESS: Rochester, NY, USA**USA
JOURNAL: Official Gazette of the United States Patent and Trademark Office Patents 1264 (1): Nov. 5, 2002 2002
MEDIUM: e-file
PATENT NUMBER: US 6474864 PATENT DATE GRANTED: November 05, 2002 20021105
PATENT CLASSIFICATION: 378-169 PATENT ASSIGNEE: Eastman Kodak Company
PATENT COUNTRY: USA
ISSN: 0098-1133 _(ISSN print)
DOCUMENT TYPE: Patent
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: An intraoral x-ray film packet is taught which has an outer envelope wherein one of the two opposing outer sheets is more rigid than the other and serves as a stiffening sheet such that it has a **tensile modulus** of at least about 700 Kg/cm2. This is preferably accomplished by making both sheets from a **thermoplastic material** such as PVC and reducing the amount of plasticizer in the more rigid of the two sheets to less than 30%. A continuous perimetric seal is formed affixing the two outer sheets together and forming a perimetric laminated edge which is substantially coplanar with the more rigid of the two sheets. A film chip resides between the two outer sheets. The coplanar perimetric laminated edge and the added rigidity aid in improving accurate sizing of each individual packet and prevention of deflection of the marginal area of individual packets in subsequent operations.

DESCRIPTORS:
MAJOR CONCEPTS: **Dental** Technology--Allied Medical Sciences; Equipment Apparatus Devices and Instruments; Radiology--Medical Sciences
METHODS & EQUIPMENT: intraoral **dental** radiographic film packet--medical supplies
MISCELLANEOUS TERMS: comfort enhancement
CONCEPT CODES:
06504 Radiation biology - Radiation and isotope techniques

31/5/22 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0010786799 BIOSIS NO.: 199799420859
Effect of PVA-AA on dentine bonding of HEMA
AUTHOR: Gung Yih-Wen; Kuo Shyh Ming; Wang Yng-Jiin (Reprint)
AUTHOR ADDRESS: Inst. Biomed. Engineering, National Yang Ming Univ., Shi Pei, Taipei, Taiwan**Taiwan
JOURNAL: Biomaterials 18 (4): p367-371 1997 1997
ISSN: 0142-9612
DOCUMENT TYPE: Article

RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: PVA-AA, an esterification product of poly(vinyl alcohol) and acryloyl chloride, was synthesized and tested for its dentine bonding ability as an additive to 2-hydroxyethyl methacrylate (HEMA). The dentine bonding strength increased significantly by increasing the concentration of PVA-AA in HEMA. The dentine **tensile** bonding **strength** attained by the mixture of 10 wt% PVA-AA in HEMA is about 38% higher than that of HEMA or Gluma bonding agent. The dentine shear bonding strength also increased by increasing the acrylate content of the PVA-AA up to about 30%. Test results of cell culturing indicate that no toxic substance is released from PVA-AA to inhibit the cell growth.

REGISTRY NUMBERS: 9002-89-5: **POLYVINYL** (**ALCOHOL**); 814-68-6: ACRYLOYL CHLORIDE; 868-77-9: 2-HYDROXYETHYL METHACRYLATE; 95918-03-9: GLUMA
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Cell Biology; **Dental** and Oral System--Ingestion and Assimilation; Methods and Techniques; Toxicology
BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata, Animalia; Mammalia--Vertebrata, Chordata, Animalia; Muridae--Rodentia, Mammalia, Vertebrata, Chordata, Animalia
ORGANISMS: human (Hominidae); mammal (Mammalia); 3T3 (Muridae)--cell line
COMMON TAXONOMIC TERMS: Humans; Primates; Animals; Chordates; Mammals; Nonhuman Vertebrates; Nonhuman Mammals; Rodents; Vertebrates
CHEMICALS & BIOCHEMICALS: **POLYVINYL** (**ALCOHOL**); ACRYLOYL CHLORIDE; 2-HYDROXYETHYL METHACRYLATE; GLUMA
MISCELLANEOUS TERMS: ACRYLOYL CHLORIDE; BIOBUSINESS; BIOMATERIALS; CELL CULTURE; CULTURE METHOD; **DENTAL** AND ORAL SYSTEM; DENTINE; DENTINE BONDING; DENTINE SHEAR BONDING STRENGTH; DENTINE **TENSILE** BONDING **STRENGTH** ; **DENTISTRY** ; GLUMA BONDING AGENT; MURINE FIBROBLAST CELLS; ORAL SYSTEM; **POLYVINYL** (**ALCOHOL**); TOOTH; 2-HYDROXYETHYL METHACRYLATE

31/5/24 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04360588 E.I. No: EIP96033104365
Title: Creep behavior of acrylic denture base resins
Author: Sadiku, Emmanuel Rotimi; Biotidara, Frank Olusesan
Corporate Source: Univ of Strathclyde, Glasgow, Scotl
Source: Journal of Biomaterials Applications v 10 n 3 Jan 1996. p 250-261
Publication Year: 1996
CODEN: JBAPEL ISSN: 0885-3282
Language: English
Document Type: JA; (Journal Article) Treatment: X; (Experimental)
Journal Announcement: 9605W2
Abstract: The creep behavior of acrylic **dental** base resins, at room temperature and at different loading conditions, has been examined. The behaviors of these resins are similar to that of 'commercial perspex' at room temperature over a period of 1000 seconds. The pseudo- **elastic moduli** of the blends of PMMA/PVC show a significant increase compared with PMMA alone. The addition of the PVC powder to the heat-cured acrylic resin increased the time-dependent **elastic modulus** . This increase in **elastic**

modulus is advantageous in the production of denture based resins of improved mechanical properties. (Author abstract) 19 Refs.

Descriptors: ***Dental** materials; Acrylics; Creep; **Elastic moduli** ; Polymer blends; Polymethyl methacrylates; **Polyvinyl chlorides** ; Stress relaxation

Identifiers: Acrylic denture base resins; Creep compliance; Pseudo **elastic moduli**

Classification Codes:

815.1.1 (Organic Polymers)

462.3 (Dental Equipment & Supplies); 815.1 (Polymeric Materials); 931.2 (Physical Properties of Gases, Liquids & Solids); 817.1 (Plastics Products)

462 (Medical Engineering & Equipment); 815 (Plastics & Polymeric Materials); 931 (Applied Physics); 817 (Plastics, Products & Applications)

46 (BIOENGINEERING); 81 (CHEMICAL PROCESS INDUSTRIES); 93 (ENGINEERING PHYSICS)

31/5/25 (Item 2 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

03685339 E.I. No: EIP93081048587

Title: Polymer chain rupture and the fracture behavior of glassy polystyrene

Author: Mohammadi, N.; Klein, A.; Sperling, L.H.

Corporate Source: Lehigh Univ, Bethlehem, PA, USA

Source: Macromolecules v 26 n 5 Mar 1 1993. p 1019-1026

Publication Year: 1993

ISSN: 0024-9297

Language: English

Document Type: JA; (Journal Article) Treatment: X; (Experimental)

Journal Announcement: 9310W2

Abstract: Uniform latexes of anionically polymerized **polystyrene** were prepared by direct miniemulsification. The particles were cleaned, dried, and sintered, and the resulting films were annealed for various periods of time at 144 degree C. The films were fractured with fine **dental** burr instrumentation. The number of chain ruptures are consumed energy per unit area were measured, as well as **tensile strength** . Plots of chain scissions and energy consumed vs 0.5 power of annealing time showed three regimes: mixed, peak and recovery. **Tensile strength** and the fracture energy per unit area of the films increase linearly with the number of chain scissions per unit fracture area in the first regime, as predicted by Peppas. (Edited author abstract) 32 Refs.

Descriptors: ***Polystyrenes** ; Amorphous materials; Latexes; Decomposition ; Fracture

Identifiers: Polymer chain rupture; Glassy **polystyrenes** ; Miniemulsification

Classification Codes:

815.1.1 (Organic Polymers)

815.1 (Polymeric Materials); 933.2 (Amorphous Solids); 802.2 (Chemical Reactions)

815 (Plastics & Polymeric Materials); 933 (Solid State Physics); 802 (Chemical Apparatus & Plants); 421 (Materials Properties)

81 (CHEMICAL PROCESS INDUSTRIES); 93 (ENGINEERING PHYSICS); 80 (CHEMICAL ENGINEERING); 42 (MATERIALS PROPERTIES & TESTING)

31/5/26 (Item 1 from file: 23)
DIALOG(R)File 23:CSA Technology Research Database

0006087638 IP ACCESSION NO: 200109-C2-P-0585; 115244
Development of novel elastomer/methacrylate monomer soft lining materials

Riggs, P D; Parker, S; Braden, M; Kalachandra, S
Royal London School of Medicine and Dentistry

Journal of Materials Science: Materials in Medicine (USA), v 12, n 4, p 359-364, Apr. 2001
PUBLICATION DATE: 2001

PUBLISHER: Kluwer, 101 Philip Drive, Norwell, MA, 02061
COUNTRY OF PUBLICATION: USA
PUBLISHER URL: http://www.wkap.nl/
PUBLISHER EMAIL: Angela.depina@wkap.com

DOCUMENT TYPE: Journal Article
RECORD TYPE: Abstract
LANGUAGE: English
ISSN: 0957-4530
NOTES: il. refs. tbls.; Graphs; Numerical Data; il.; tbls.; 14 ref., Graphs, Numerical Data
NO. OF REFS.: 14
FILE SEGMENT: Engineering Materials Abstracts; ANTE: Abstracts in New Technologies and Engineering

ABSTRACT:
An earlier study identified a formulation comprising a butadiene /styrene copolymer (PBS) gelled with ethyl hexyl methacrylate (5 + formulation) as a potential denture soft lining material. It had good mechanical properties but water uptake was high as a result of the presence of a separating agent. This study has compared the tensile and water absorption properties of four elastomers free from separating agent (three butadiene/styrene, HBS, EBS, SBS, and one isoprene/styrene, SIS) with those of PBS all using the 5 + formulation. HBS is emulsion polymerized; the others are solution polymerized. SIS5+ had the better tensile properties whereas HBS5 + had the lowest water uptake. All the other 5 + formulations had higher uptakes than PBS5 +, which is thought to be due to the presence of hydrophilic groups from the solution polymerization process. All materials showed some sign of oxidation. Emulsion polymerized elastomers are regarded as less suitable for medical uses than the solution polymerized alternatives. Of these, SIS5 + seems to be less prone to oxidation and has the better mechanical properties so was considered to be the most suitable material for further development.

DESCRIPTORS: **Dental** materials; Synthetic rubber; Butadiene; Styrene; Polyisoprene; Polymethacrylate; Copolymers; Journal article; Polybutadienes; Physical properties; Polymethacrylates; **Polystyrene** resins; **Dental** materials; Biomedical materials; **Tensile strength** ; Hygroscopicity; Water; Moisture content; Biocompatibility; Synthetic rubber; Butadiene; Styrene; Polyisoprene; Polymethacrylate; Copolymers
SUBJ CATG: C2, Physical Properties

31/5/27 (Item 2 from file: 23)
DIALOG(R)File 23:CSA Technology Research Database

0006054203 IP ACCESSION NO: 200108-C1-P-2745; 115339

Blends of isoprene-styrene/methacrylate monomer systems as denture soft lining material

Nazhat, S N; Parker, S; Riggs, P D; Braden, M
University of London

Biomaterials (UK), v 22, n 15, p 2087-2093, Aug. 2001
PUBLICATION DATE: 2001

PUBLISHER: Elsevier Science Ltd., Oxford Fulfillment Centre, P.O. Box 800, Kidlington, Oxford, OX5 1DX
COUNTRY OF PUBLICATION: UK
PUBLISHER URL: http://www.elsevier.com

DOCUMENT TYPE: Journal Article
RECORD TYPE: Abstract
LANGUAGE: English
ISSN: 0142-9612
NOTES: il. refs. tbls.; Graphs; Numerical Data; il.; tbls.; 19 ref., Graphs, Numerical Data
NO. OF REFS.: 19
FILE SEGMENT: Engineering Materials Abstracts; ANTE: Abstracts in New Technologies and Engineering

ABSTRACT:
This work further develops the concept of using an elastomer gelled with methacrylate monomers to produce a methacrylate-based soft lining material without the use of a plasticizer. An isoprene-styrene (SIS) block copolymer was mixed with methyl methacrylate (MMA) and 1,6-hexandiol dimethacrylate (HDMA). The HDMA was used as a cross-linking agent. The elastomer/monomer ratios were maintained at 50/50 whereas the monomers ranged from 0 to 100% HDMA. Mechanical properties and water absorption /desorption characteristics were used to assess the effect of varying the monomer compositions. The results indicated that phase separation took place, in particular at high HDMA content. This significantly increased the **Young** 's **modulus** and decreased the elongation to break. Generally, the water uptake tended to decrease with increasing HDMA content, reflecting the effect of modulus. Second absorption cycles gave higher uptake values compared to the first. Formulations with a high amount of HDMA gave materials with modulus values too high for soft lining applications. This suggests that the optimum formulation requires a compromise between modulus and water uptake.

DESCRIPTORS: **Dental** materials; Dentures; Linings; Synthetic rubber; Polymethacrylate; Styrene; Polyisoprene; Copolymers; Journal article; **Dental** materials; Mechanical properties; **Polystyrene** resins; Copolymers; Polymethyl methacrylates; Block copolymers; **Modulus** of **elasticity** ; Elongation; Hygroscopicity; Water; Sorption; Dentures; Linings; Synthetic rubber; Polymethacrylate; Styrene; Polyisoprene
SUBJ CATG: C1, Mechanical Properties

31/5/29 (Item 4 from file: 23)
DIALOG(R)File 23:CSA Technology Research Database

0004832750 IP ACCESSION NO: WCA098145
PLASMA-SPRAYED HYDROXYLAPATITE COATING ON CARBON FIBRE REINFORCED THERMOPLASTIC **COMPOSITE** MATERIALS

S-W, Ha; Mayer, J; Koch, B; Wintermantel, E
Zurich, Eidgenossische Technische Hochschule

Mater.Med., v 5, n 6/7, p 481-484, 1994
PUBLICATION DATE: 1994

DOCUMENT TYPE: Journal Article
RECORD TYPE: Abstract
LANGUAGE: English
NO. OF REFS.: 17
FILE SEGMENT: Ceramics Abstracts/World Ceramic Abstracts

ABSTRACT:
Plasma-spraying of metallic implant surfaces is an established method for the application of hydroxylapatite (HA) coatings. Carbon fibre reinforced thermoplastics show different thermal and mechanical properties, compared with titanium substrates. First results of the influence of the established coating method on carbon fibre reinforced thermoplastics are presented. Investigations of the **tensile** adhesion **strength** , tested with a newly developed testing device, showed that the adhesion between the HA coating and the carbon fibre reinforced polyetheretherketone composite is very low. Macromechanical bending tests showed a change to initial tensile instead of compression failure of the coated composite substrate. Micromechanical bending tests in a scanning electron microscope hot tensile stage (Raith GmbH) revealed crack propagation within the ceramic coating and in the coating-substrate interface before the total failure of the composite substrate occurred. 17 refs.

DESCRIPTORS: Adhesive strength; Bending test; Bioceramic; Biomaterial; Carbon fibre; Coating; Coatings; Composite; Crack propagation; Hydroxyapatite; Implant; Interface; Macromechanics; Mechanical properties ; Metal; Metal substrate; Peek; Plasma spraying; Plasma-sprayed coating; Polyetheretherketone; Reinforcement; Scanning electron microscopy; Sem; Substrate; Technical; **Tensile** properties; **Tensile strength** ; Thermal properties; **Thermoplastic** ; Titanium; Advanced **material** ; Europe; Switzerland; Western europe,
SUBJ CATG: QQ, Medical, **dental** and veterinary application; SH, Coating and impregnating; SV, Vapour deposition, pyrolysis, gunning, flame spraying ; UG, Mechanical properties (including tribology); QC, Films and coatings

31/5/30 (Item 5 from file: 23)
DIALOG(R)File 23:CSA Technology Research Database

0004545691 IP ACCESSION NO: 199502-F1-D-0074; 2001-24-033547

Development of Kevlar-acrylic composite for artificial teeth

Subramanian, P N
Vikram Sarabhai Space Centre

Met. Mater. Process., v 5, n 3, p 185-189, Oct.-Dec. 1993
PUBLICATION DATE: 1993

PUBLISHER: Meshap Science Publishers, Circulation Dept. Post Box 8319, T.F. Deonar, Bombay, 400 088
COUNTRY OF PUBLICATION: India

CONFERENCE:
Fibre Reinforced Plastics and Composites, Bangalore, India, 27-28 Aug. 1993

DOCUMENT TYPE: Conference Paper; Journal Article
RECORD TYPE: Abstract
LANGUAGE: English
ISSN: 0970-423X
NOTES: Numerical Data; Numerical Data
FILE SEGMENT: Engineering Materials Abstracts; Civil Engineering Abstracts

ABSTRACT:
The paper deals with the work related to successful development of Kevlar composite under a sponsored project for **dental** application. Here, the aim was to develop a composite product for fixed **prosthodontics** . This was meant to find a cheap substitute for metal products used for the purpose. Because of the wide experience, investigation was limited to room temperature curing and high temperature curing acrylic type resin. Considering various aspects of bio-compatibility, aesthetics, etc., Kevlar /acrylic composite was chosen as the ideal material for this application. GFRPs and CFRPs were also considered. A program was mapped out for design, testing and evaluation of Kevlar/acrylic composites. Requirements were worked out (such as loads, environmental conditions, fabrication feasibility, etc.). Specimens were fabricated for various combinations and extensive tests were conducted to arrive at compressive **strength** , impact **strength** , **tensile strength** , shear **strength** , hardness, fatigue, erosion, deflection under load, etc. High-temperature curing acrylic resin with 5% Kevlar fibre was found to be the best combination. Bio-compatibility was also ascertained based on tests. Field trials proved the product fully.

DESCRIPTORS: Conference paper; Polymethyl methacrylates; Composite materials; Aramid fiber reinforced plastics; Materials selection; Carbon fiber reinforced plastics; Glass fiber reinforced plastics; **Dental** materials; Biocompatibility; Aromatic **polyamides** ; Curing; Polymer matrix composites; Acrylic resins; Fabrication; Hardness; Substitutes; Shear strength; Compressive strength; High temperature; Fatigue (materials); Erosion; Impact **strength** ; **Tensile strength** ; Deflection ; Polymers; Fatigue tests; Realizability
SUBJ CATG: F1, Engineering Components and Structures; 24, Design and Properties of Substructures
MATERIALS: Kevlar

31/5/32 (Item 7 from file: 23)

0003538527 IP ACCESSION NO: 8807D1-P-0989
Study of Popcorn Polymerization. IX. Preparation of Composite Resins Containing a Popcorn Polymer

Tatsumi, M; Nakatsuka, T; Yamamoto, S
Kansai University

Kobunshi Ronbunshu, v 45, n 2, p 133-137, Feb. 1988
PUBLICATION DATE: 1988

PUBLISHER: Society of Polymer Science, Japan, Tsukiji Daisan Nagaoka Bldg., 2-4-2 Tsukiji, Chuo-ku, Tokyo, 104
COUNTRY OF PUBLICATION: Japan

RECORD TYPE: Abstract
LANGUAGE: Japanese
ISSN: 0386-2186
FILE SEGMENT: Engineering Materials Abstracts

ABSTRACT:
Cold-cured resins containing a styrene popcorn polymer (PCP) having porous structure were prepared and the properties as a **dental** filling composite resin are examined. The mixture paste containing aproximately 11 wt.% of methyl methacrylate (MMA), 63 wt.% of 2,2-bis(4'-(3-methacryloxy-2-hydroxypropoxy)phenyl)-propane (bis-GMA), and 26 wt.% of a PCP powder in a size of about 50 to 70 mu m, was allowed to polymerize with the benzoyl peroxide /N,N-dimethyl-p-toluidine initiator system. The resulting milk-white product had porous structure and a **tensile strength** of approximately 180 kg/cm exp 2 and a water sorption of 5.9 mg/cm exp 2 . When the polymerization of MMA was carried out by use of the styrene PCP as a seed, a PCP of MMA resulted. The porous structure of the cured resin is probably due to the seed activity of the styrene PCP and was responsible for failing improve the physical properties for **dental** use. However, the incorporated PCP had protractive effect on the release of an antibacterial drug such as chlorohexidine acetate from the cured resin into water. 8 ref.--AA

DESCRIPTORS: **Polystyrene** resins; Polymerization; Biocompatibility; Polymethyl methacrylates; **Tensile strength** ; Sorption
SUBJ CATG: D1, Raw Materials

31/5/34 (Item 2 from file: 94)

04708734 JICST ACCESSION NUMBER: 00A1036007 FILE SEGMENT: JICST-E
Experimental Study on the Development of a Preventive Material for Interproximal Surface Caries.
KOMATSU TAICHI (1)
(1) Kanagawa Dent. Coll.
Kanagawa Shigaku(Journal of the Kanagawa Odontological Society); 2000, VOL.35,NO.1, PAGE.1-12, FIG.13, TBL.1, REF.39
JOURNAL NUMBER: Y0141AAO ISSN NO: 0454-8302

UNIVERSAL DECIMAL CLASSIFICATION: 616.314-7
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: There has been a decrease in the incidence of occlusal caries and serious caries seen in deciduous teeth due to widely spread procedures in caries prevention. The interproximal surface caries in growing up preschool children, however, had become more apparent. It is very important task for **dentist** to prevent from making the caries in the interproximal surface. So, fluoride releasing film was therefore formulated to facilitate caries prevention. This study investigated the fundamental characters of the film that was made from 8wt% poly vinyl alcohol, sodium fluoride solution and 5.04wt% glycerin. Films were divided into 3 types, each film contained 0.5%, 1.0% and 2% fluoride solution. Physicochemical characters of the film were investigated through the viscosity test, the **tensile strength** test and surface analysis were examined with the use of E type viscosity apparatus, tension apparatus, scanning electron microscope and scanning prove microscope, respectively. Fluoride containing film and fluoride uptake to hydroxyapatite were measured using a fluoride specific electrode. Calcium releasing from the hydroxyapatite was measured by atomic absorption spectrophotometer. The results were obtained as follows after these tests were performed. The film was strong enough to insert to the interproximal surface. The film was disappeared perfectly within distilled water about 60 minutes through gel situation. Fluoride releasing from the film was the highest level within 7-8 minutes and was decreased to base line within 30-40 minutes. Fluoride releasing from the film was taken into hydroxyapatite sinter and showed resistance to acid. These findings suggested that the film is useful to prevent the caries of interproximal surface of deciduous teeth. (author abst.)
DESCRIPTORS: **dental** material; fluorine; **dental** caries; plastic film; **polyvinyl alcohol** ; **tensile strength** ; hydroxyapatite; **dental** enamel; acid resistance; preventive **dentistry**
BROADER DESCRIPTORS: medical material; material; second row element; element; halogen; tooth disease; mouth disease; stomatognathic disease; disease; polymer; thermoplastic; plastic; mechanical property; property ; strength; apatite; phosphate mineral; mineral(geology); tooth; oral cavity; digestive organ; chemical durability; resistance(endure); **dental** care; therapy; prevention; preclusion(protection)
CLASSIFICATION CODE(S): GT06000B

31/5/35 (Item 3 from file: 94)
DIALOG(R)File 94:JICST-EPlus

04184585 JICST ACCESSION NUMBER: 99A0451220 FILE SEGMENT: JICST-E
A study on impact and tensile strength **of acrylic resin filled with short ultra-high molecular weight polyethylene fibers.**
TANER B (1); DOGAN A (1); TINCER T (2); AKINAY A E (2)
(1) Gazi Univ., Ankara, Tur; (2) Middle East Technical Univ., Ankara, Tur
J Oral Sci, 1999, VOL.41,NO.1, PAGE.15-18, FIG.6, TBL.2, REF.14
JOURNAL NUMBER: Z0759ABL ISSN NO: 1343-4934
UNIVERSAL DECIMAL CLASSIFICATION: 616.314-7
LANGUAGE: English COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: In **dentistry** , acrylates have been used for preparing denture bases for 50 years. Although polymethylmethacrylates(PMMA) are known to be an ideal base material, they possess some undesirable mechanical properties, especially their impact **strength** and **tensile strength** , which appear to be unsatisfactory for some applications. Additives and fibers have therefore been used to enhance and improve these properties over the last two decades. The present article describes the mechanical properties, impact and **tensile strength** of PMMA reinforced with chopped ultra-high molecular weight polyethylene fiber(6mm long). It was found that, although the processing involved for high loading of fibers into the PMMA was difficult, the resulting improvement of impact strength was substantial. (author abst.)
DESCRIPTORS: composite resin; fiber reinforced plastic; polyethylene fiber; ultra high molecular weight polyethylene; polymethyl methacrylate; impact strength; **tensile strength**
BROADER DESCRIPTORS: **dental** material; medical material; material; reinforced plastic; composite material; **polyolefin** fiber; synthetic fiber; man-made fiber; fiber; high molecular weight polyethylene; polyethylene; **polyolefin** ; polymer; thermoplastic; plastic; polyalkyl methacrylate; polymethacrylate; acrylic resin; mechanical property; property; strength
CLASSIFICATION CODE(S): GT06000B

31/5/36 (Item 4 from file: 94)
DIALOG(R)File 94:JICST-EPlus

03520501 JICST ACCESSION NUMBER: 98A0441468 FILE SEGMENT: JICST-E
Improvement of PMMA Denture Base Materials . **Effect of** Thermoplastic **Elastomer on Dynamic Viscoelastic Properties and Impact Resistance.**
KUWAHATA HIROYUKI (1)
(1) Kagoshima Univ., Dent. Sch.
Shika Zairyo, Kikai(Journal of the Japanese Society for Dental Materials and Devices), 1998, VOL.17,NO.2, PAGE.108-119, FIG.17, TBL.2, REF.29
JOURNAL NUMBER: G0583BAV ISSN NO: 0286-5858
UNIVERSAL DECIMAL CLASSIFICATION: 616.314-7
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: Polyblend powders, which were mechanically blended into polymethyl-methacrylate(PMMA), were produced using two thermoplastic elastomers (syndiotactic 1,2 polybutadiene(BR) and stylene-isoprene-stylene(SIS)). Using there powders, conventional polymerization was carried out. For ten materials obtained according to the conventional curing technique, dynamic viscoelastic properties (G' and .ETA.'), coefficient of thermal expansion, water absorption, residual monomer(MMA) and impact strength were examined. G' (dynamic **shear modulus**) decreased 26% compared with that of PMMA in a temperature range from room temperature (23.+-.1.0.DEG.C.) to 100.DEG.C.. .ETA.' (coefficient of dynamic viscosity) also decreased and its rate of decrease was 30.8%. Although the amounts of thermal expansion of both materials (blended with BR and SIS) were less than

that of PMMA in air, there were no significant difference between polyblends and PMMA. On the other hand, the amounts of thermal expansion and residual monomer increased gradually with the increase of elastomer. Further-more, bending strength and strain energy were also increased, and impact strength of their materials was markedly improved. (author abst.)
DESCRIPTORS: composite resin; denture base; polymethacrylate; additive effect; viscoelasticity; thermal expansion; impact strength; bending strength; mixture ratio; modulus of rigidity; test piece; residue analysis; ratio; water absorption rate
BROADER DESCRIPTORS: **dental** material; medical material; material; denture ; artificial biosystem; equipment; prosthetic appliance; object; acrylic resin; polymer; thermoplastic; plastic; effect; mechanical property; property; thermodynamic property; expansion; dimensional change; variation; strength; **elastic modulus** ; coefficient; sample; analysis(separation); analysis
CLASSIFICATION CODE(S): GT06000B

31/5/37 (Item 5 from file: 94)
DIALOG(R)File 94:JICST-EPlus

02675792 JICST ACCESSION NUMBER: 96A0077938 FILE SEGMENT: JICST-E
Preparation and Properties of a Light-cured Type of Soft Denture Liner Based on a Fluoropolymer.
SUZUKI TADASHI (1)
(1) Tokyo Medical and Dental Univ., Inst. for Medical and Dental Engineering
Shika Zairyo, Kikai(Journal of the Japanese Society for Dental Materials and Devices), 1995, VOL.14,NO.6, PAGE.710-720, FIG.6, TBL.6, REF.55
JOURNAL NUMBER: G0583BAV ISSN NO: 0286-5858
UNIVERSAL DECIMAL CLASSIFICATION: 616.314-7
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: An experimental light-cured type of acrylic soft denture liner(2-6F) was prepared consisting o vinylidene fluoride/hexafluoropropylene copolymer, ethyl methacrylate, 2-ethyl-hexyl acrylate, and tetraacrylate cross-linking agent. This study compared the physical properties(hardness, water contact angle, sorption of water and oil, **tensile strength** , and **tensile** bond **strength** to denture base resin) as well as viscoelastic properties of 2-6F with five commercial soft denture liners. The effects of storage in water on some of the properties were also examined. After being cured, 2-6F had the following properties: Sorption of water after immersion for 5 weeks was 0.36wt%, which was less than that obtained in the commercial materials except for **polyolefinic** liner. Sorption of oil after immersion for 5 weeks was also low, -0.21wt%. Leachable ethyl methacrylate monomer from 2-6F was extremely low(13.5ppm). Hardness was 46.7, which was an intermediate value among the materials tested. The water contact angle of 81.0 degrees was higher than that usually found in poly(methyl methacrylate) resin(70.DEG.). **Tensile strength** and **tensile** bond **strength** to methacrylic denture base resin were 16.58MPa and 3.40MPa, respectively and the change in these values was slight even after storage in water for 10 weeks. These value were

considerably higher than those obtained with commercial materials. Overall, 2-6F showed a relatively high storage modulus and tan .DELTA.. This indicates that 2-6F is stiff and absorbs energy more readily. Each material had considerably different physical and viscoelastic properties. Therefore, it was suggested that clinicians should select materials suitable for each individual. (author abst.)
DESCRIPTORS: denture liner; **dental** material; acrylic resin; fluorocarbon resin; photopolymerization; **tensile strength** ; viscoelasticity; adhesive strength; contact angle; hardness; ratio; water absorption rate
BROADER DESCRIPTORS: denture; artificial biosystem; equipment; prosthetic appliance; object; medical material; material; polymer; thermoplastic; plastic; fluorine-containing polymer; halogen-containing polymer; photochemical reaction; chemical reaction; polymerization; mechanical property; property; strength; angle; geometric quantity
CLASSIFICATION CODE(S): GT06000B

31/5/38 (Item 6 from file: 94)
DIALOG(R)File 94:JICST-EPlus

02284777 JICST ACCESSION NUMBER: 95A0109793 FILE SEGMENT: JICST-E
The State and Future of Denture Base Soft Lining Materials.
MORIYA NAOFUMI (1); AKAGAWA YASUMASA (1)
(1) Hiroshima Univ., Sch. of Dent.
Hiroshima Daigaku Shigaku Zasshi(Journal of Hiroshima University Dental Society), 1994, VOL.26,NO.2, PAGE.360-368, FIG.6, TBL.3, REF.82
JOURNAL NUMBER: F0305AAN ISSN NO: 0046-7472
UNIVERSAL DECIMAL CLASSIFICATION: 616.314-7
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Review article
MEDIA TYPE: Printed Publication
DESCRIPTORS: **dental** material; viscoelasticity; elongation; **elastic modulus** ; stress relaxation; coefficient of viscosity; acrylic resin; fluorocarbon resin; **polyolefin** ; silicone resin; denture base; oral mucosa conditioning
BROADER DESCRIPTORS: medical material; material; mechanical property; property; phenomena in strength of material; phenomenon; coefficient; relaxation phenomenon; degree; transport coefficient; polymer; thermoplastic; plastic; fluorine-containing polymer; halogen-containing polymer; thermosetting plastic; polysiloxane; inorganic polymer; denture; artificial biosystem; equipment; prosthetic appliance; object; **dental** prosthesis; **dental** care; therapy; prosthesis; adjustment
CLASSIFICATION CODE(S): GT06000B

31/5/40 (Item 8 from file: 94)
DIALOG(R)File 94:JICST-EPlus

01724306 JICST ACCESSION NUMBER: 92A0490531 FILE SEGMENT: JICST-E
Effect of Resilient Lining Material of Denture Base. Clinical Investigation and Model Experiment on Occlusal Force Distribution.
EMURA ISAO (1); IDOJI SHIGERU (1); MAEDA YOSHINOBU (1); OKADA MASATOSHI (1); NOKUBI TAKASHI (1); OKUNO YOSHIHIKO (1)

(1) Osaka Univ., Dental School
Nippon Hotetsu Shika Gakkai Zasshi(Journal of the Japan Prosthodonic Society), 1992, VOL.36,NO.3, PAGE.644-649, FIG.3, TBL.2, REF.22
JOURNAL NUMBER: Z0574BAQ ISSN NO: 0389-5386
UNIVERSAL DECIMAL CLASSIFICATION: 616.314-089.28
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: Resilient denture lining materials have been known as one of the effective measures for treating cases with severely atrophic mandible or with constant pain on residual ridge. The effective method of application and the mode of action of these materials, however, have not been clearly demonstrated yet. The main objective of this study was to investigate the influence of these materials on occlusal force distribution using T-Scan system. The study was carried out on six volunteer edentulous manidble patients using resilient **polyolefin** lining materials with two different hardness (soft and hard). Following results were obtained. 1. In dentures with the soft resilient lining material, comparing with the hard one or the conventional resin base, the number of occlusal contact points increased and the location of contacts more widely spread within **dental** arch. 2. Despite the use of soft lining material, pain and discomfort were not eliminated in some subjects. Orthopantomography of these subjects suggested the topography of mandibular bone cloud has significant effect on these incidences. 3. Occlusal adjustments should be carefully performed after the insertion of denture with soft lining material. (author abst.)
DESCRIPTORS: human(primates); denture liner; soft material; elastic material; **dental** occlusion; force; alveolar ridge; dispersion; artificial tooth; dentition; pain; **elastic modulus** ; **dental** model; experiment
BROADER DESCRIPTORS: denture; artificial biosystem; equipment; prosthetic appliance; object; material; mechanical quantity; oral cavity; digestive organ; jaw bone; facial bone; skull; bone; skeleton; musculoskeletal system; symptom; disease; coefficient; **dental** equipment; medical equipment; model
CLASSIFICATION CODE(S): GT05030B

31/5/41 (Item 9 from file: 94)
DIALOG(R)File 94:JICST-EPlus

01630800 JICST ACCESSION NUMBER: 92A0630367 FILE SEGMENT: JICST-E
Physical and Mechanical Properties of Denture Base Soft Lining Materials.
ARIKAWA HIROYUKI (1); TERAO TAKAHARU (1); KANIE TAKAHITO (1); FUJII KOICHI (1); INOUE KATSUICHIRO (1); KADOKAWA AKIHIKO (1); HAMANO TOORU (1)
(1) Kagoshima Univ., Dental School
Shika Zairyo, Kikai(Journal of the Japanese Society for Dental Materials and Devices), 1992, VOL.11,NO.4, PAGE.642-646, FIG.6, TBL.1, REF.6
JOURNAL NUMBER: G0583BAV ISSN NO: 0286-5858
UNIVERSAL DECIMAL CLASSIFICATION: 616.314-7
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: The working time and setting time, viscosity, **elastic** recovery,

elastic modulus , hardness (HDA) and dimensional change of 10 commercial denture base soft lining materials (5 acrylates, 3 silicones, 1 fluoro polymer and 1 olefin polymer) were measured. The working time for the six materials examined ranged from 2.5 to 17.0min, the setting time ranged from 3.8 to 14.3min. In the case of two silicones, the viscosity was markedly increased after the start of measurement. Six materials reached above 90% of elastic recovery at 2-9min after the start of mixing. The elastic recovery for two silicones at 30min was nearly 100%. The **elastic modulus** ranged from 1.51*106 to 2.74*106dyne/cm2. These values were lower than those obtained for the oral soft tissue (0.7-4.4*7dyne/cm2). Olefin polymer and one acrylate (heat cured) had a higher hardness value than the other materials. For acrylates, the values of **elastic modulus** and hardness increased with time (30 day). In dimensional change, four acrylates showed expansion for 2-5hr after the start of mixing. (author abst.)

DESCRIPTORS: **dental** material; denture base; acrylic resin; silicone resin ; **polyolefin** ; coefficient of viscosity; hardening; **elastic modulus** ; hardness; dimensional change; denture liner

BROADER DESCRIPTORS: medical material; material; denture; artificial biosystem; equipment; prosthetic appliance; object; polymer; thermoplastic; plastic; thermosetting plastic; polysiloxane; inorganic polymer; degree; transport coefficient; coefficient; variation

CLASSIFICATION CODE(S): GT06000B

31/5/42 (Item 10 from file: 94)

DIALOG(R)File 94:JICST-EPlus

01516667 JICST ACCESSION NUMBER: 92A0187482 FILE SEGMENT: JICST-E

A Study on LTV Vinyl Silicone Rubber for Tooth Positioner. Reinforced Effect of Fibers.

KASHIMA MITSUHIRO (1); SUGA KIYOSHI (1); KAZAMI KATSUTOSHI (1); OKI KATSUZO (1); KAKETANI MASAHIRO (2); SAITO MASAHIRO (2); FUKASE YASUMASA (2); SAKANE REIICHI (2); NISHIYAMA MINORU (2)

(1) Nihon Univ., School of Dentistry, Dental Technician Training School ; (2) Nihon Univ., School of Dentistry

Nichidai Shigaku(Nihon University Dental Journal), 1992, VOL.66,NO.1, PAGE.126-136, FIG.15, TBL.5, REF.9

JOURNAL NUMBER: G0581AAS ISSN NO: 0385-0102 CODEN: NISHB

UNIVERSAL DECIMAL CLASSIFICATION: 616.314-7

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

DESCRIPTORS: **dental** material; reinforced rubber; silicone rubber; **tensile strength** ; **elastic modulus** ; elongation percentage; microscopy; wool; cotton(fiber); nylon fiber; polyester fiber

BROADER DESCRIPTORS: medical material; material; composite material; synthetic rubber; rubber; polysiloxane; inorganic polymer; polymer; mechanical property; property; strength; coefficient; ratio; observation and view; keratin fiber; animal fiber; protein fiber; fiber ; natural fiber; seed hair fiber; vegetable fiber; cellulosic fiber; **polyamide** fiber; synthetic fiber; man-made fiber

CLASSIFICATION CODE(S): GT06000B

31/5/43 (Item 11 from file: 94)
DIALOG(R)File 94:JICST-EPlus

01083400 JICST ACCESSION NUMBER: 90A0555184 FILE SEGMENT: JICST-E
Dental **material science of high polymer super impdene using for** thermo - plastic **impression** material .
TAKAHASHI SHIGEO (1); SUGIE GENJI (1); HIRAMINE KATSUTSUGU (2); TOYAMA KEIICHI (2); KANEKO MANZO (2)
(1) Matsumoto Dental College; (2) Sutadiguruputerakoya
Hotetsu Rinsho(Practice in Prosthodontics), 1990, VOL.23,NO.3, PAGE.317-319, FIG.4, TBL.1
JOURNAL NUMBER: Y0910AAY ISSN NO: 0018-6341
UNIVERSAL DECIMAL CLASSIFICATION: 616.314-7
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
DESCRIPTORS: human(primates); impression material; medical polymer; comparison; compressive strength; durability; **elastic modulus** ; surface roughness; heat transfer coefficient; specific heat; softening; temperature
BROADER DESCRIPTORS: **dental** material; medical material; material; macromolecule; mechanical property; property; strength; resistance(endure); coefficient; surface quality; flatness(property); heat transmission coefficient; ratio; thermodynamic property
CLASSIFICATION CODE(S): GT06000B

31/5/44 (Item 12 from file: 94)
DIALOG(R)File 94:JICST-EPlus

01019563 JICST ACCESSION NUMBER: 90A0354496 FILE SEGMENT: JICST-E
On the characteristics of modeling compound impression materials and a new high polymer thermoplastic **impression** material .
HIRAMINE KATSUJI (1); TOYAMA KEIICHI (1); KANEKO MANZO (1); SUGIE GENJI (2); HORASAWA NORIKO (2); NAGASAWA SAKAE (2); TAKAHASHI SHIGEO (2); HASHIMOTO KYOICHI (2); (2) Matsumoto Dental College
Matsumoto Shigaku(Journal of the Matsumoto Dental College Society), 1989, VOL.15,NO.3, PAGE.303-309, FIG.11, TBL.2, REF.9
JOURNAL NUMBER: Z0433BAA ISSN NO: 0385-1613
UNIVERSAL DECIMAL CLASSIFICATION: 616.314-7
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: Currently marketed modeling compound impression **materials** , and a new **thermoplastic** high **polymer** impression **material** , were compared in terms of their themoplastic characteristics, and their physical and mechanical properties. The twelve kinds of modeling compounds used included both Japanese and foreign products. The new material consists of poly capryl lactone. It must be softened at 72-82.DEG.C., but can be used for taking impressions at 48.DEG.C.. It has higher compressive strength and **Young** 's **modulus** , but less **elasticity** than conventional modeling compounds. Its thermal

conductivity in low, and its specific heat high. From these factors it is concluded that the new impression material is suitable for a veriety of applications including impressions for an individual tray, for complete dentures, or for determining the occlusal relation. (author abst.)
DESCRIPTORS: impression material; medical polymer; polycaprolactone; thermoplastic; pressurization(apply); scale down; **elastic modulus** ; **yield strength** ; flexibility; specific heat; heat conduction; complete denture; **dental** impression technique; jaw relation record
BROADER DESCRIPTORS: **dental** material; medical material; material; macromolecule; polyhydroxy alkanoic acid; aliphatic polyester; polyester; polymer; plastic; operation(processing); modification; action and behavior; coefficient; mechanical property; property; strength; thermodynamic property; heat transmission; transport phenomenon; phenomenon; denture; artificial biosystem; equipment; prosthetic appliance; object; **dental** care; therapy
CLASSIFICATION CODE(S): GT06000B

31/5/46 (Item 14 from file: 94)
DIALOG(R)File 94:JICST-EPlus

00592027 JICST ACCESSION NUMBER: 88A0226196 FILE SEGMENT: JICST-E
Application of the polyaramide fiber to denture base. Part II. Affection of surface treatment and incorporation of fibers to reinforce of P.M.M.A. resin.
OKANO MASAKAZU (1); YAZAKI TAKAHIRO (1); KAWAI YASUHIKO (1); YAMAUCHI TETSURO (1); NOHARA YUKIO (1); FURUYA IRURU (1); MIWA AKIHIRO (1); KAWARA MISAO (1); TATEISHI TETSUYA (2)
(1) Nihon Univ., School of Dentistry at Matsudo; (2) Mechanical Engineering Lab.
Nichidai Koku Kagaku(Nihon University Journal of Oral Science), 1988, VOL.14,NO.1, PAGE.46-53, TBL.6, REF.34
JOURNAL NUMBER: Z0705AAB ISSN NO: 0385-0145
UNIVERSAL DECIMAL CLASSIFICATION: 616.314-7
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: Polyaramide fiber, sandwiched between the resin plates, was tested to reinforce its polymethylmetacrylate resin for denture base. In order to investigate the effect of surface-treated polyaramide fibers and its embedded amount within the resins, specimens containing 0.2wt%, 0.5wt% and 0.8wt% of the fiber were subject to bending tensile tests. The following results were obtained: 1) Comparing surface-treated 20mm long polyaramide fibers and surface-nontreated one, the showed more reinforcement effect on bending strength, bending **elastic** modulus, **tensile elastic modulus** , **tensile strength** and **tensile** toughness than the later. 2) Reinforcement effect was observed in bending **elastic modulus** , bending strength, bending toughness and tensile toughness when 0.2wt%, 0.5wt% and 0.8wt% fibers were embedded in resins. Its highest effect was seen as 0.5% of fiber was embedded.(author abst.)
DESCRIPTORS: denture base; composite resin; **dental** material; surface treatment; mixture ratio; wetting(liquid); elastic effect; fracture strength; bending strength; **tensile strength** ; test piece; aramid

fiber
BROADER DESCRIPTORS: denture; artificial biosystem; equipment; prosthetic appliance; object; medical material; material; treatment; ratio; effect ; mechanical property; property; strength; sample; **polyamide** fiber; synthetic fiber; man-made fiber; fiber
CLASSIFICATION CODE(S): GT06000B

31/5/47 (Item 15 from file: 94)
DIALOG(R)File 94:JICST-EPlus

00583639 JICST ACCESSION NUMBER: 88A0202374 FILE SEGMENT: JICST-E
Study on popcorn polymerization. IX. Preparation of composite resins containing a popcorn polymer.
TATSUMI MASAKAZU (1); NAKATSUKA TOSHIYUKI (1); YAMAMOTO SEIKA (1)
(1) Kansai Univ., Faculty of Engineering
Kobunshi Ronbunshu, 1988, VOL.45,NO.2, PAGE.133-137, FIG.6, REF.8
JOURNAL NUMBER: G0122ABI ISSN NO: 0386-2186 CODEN: KBRBA
UNIVERSAL DECIMAL CLASSIFICATION: 544.23:542.9 616.314-7
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: Cold-cured resins containing a styrene popcorn polymer(PCP) having porous structure were prepared and the properties as a **dental** filling composite resin are examined. The mixture paste containing approximately 11wt% of methyl methacrylate(MMA), 63wt% of 2,2-bis 4'-(3-methacryloxy-2-hydroxypropoxy)phenyl!-propane (bis-GMA), and 26wt% of a PCP powder in a size of about 50 to 70.MU.m, was allowed to polymerize with the benzoyl peroxide/N,N-dimethyl-p-toluidine initiator system. The resulting milk-white product had porous structure and a **tensile strength** of approximately 180kg/cm2 and a water sorption of 5.9mg/cm2. When the polymerization of MMA was carried out by use of the styrene PCP as a seed, a PCP of MMA resulted. The porous structure of the cured resin is probably due to the seed activity of the styrene PCP and was responsible for failing to improve the physical properties for **dental** use. However, the incorporated PCP had protractive effect on the release of an antibacterial drug such as chlorohexidine acetate from the cured resin into water.(author abst.)
DESCRIPTORS: **polystyrene** ; fine particle; mixture; paste; polymerization initiator; acyl peroxide; crosslinking; porous medium; **tensile strength** ; water content; composite resin; drug release; polymerization ; aliphatic carboxylic acid; olefin compound; unsaturated carboxylic acid; carboxylate(ester); aromatic compound; alcohol; vinyl compound; nitrogen heterocyclic compound; aromatic carboxylic acid; aromatic amine
BROADER DESCRIPTORS: polymer; thermoplastic; plastic; particle; object; peroxide(organic); polyoxide; polymer reaction; chemical reaction; porous object; mechanical property; property; strength; content; characteristic; **dental** material; medical material; material; biopharmacy; pharmacy(pharmaceutics); pharmaceutical sciences; natural science; science; emission; carboxylic acid; ester; hydroxy compound; heterocyclic compound; amine
CLASSIFICATION CODE(S): CG03020L; GT06000B

31/5/48 (Item 16 from file: 94)
DIALOG(R)File 94:JICST-EPlus

00571758 JICST ACCESSION NUMBER: 88A0183714 FILE SEGMENT: JICST-E
Experimental study on the properties of materials for facial prosthesis.
SHIMPO SATORU (1)
(1) Tsurumi Univ., Graduate School
Gakuganmen Hotetsu(Maxillofacial Prosthetics), 1987, VOL.10,NO.2, PAGE.39-67, FIG.8, TBL.12, REF.82
JOURNAL NUMBER: Y0723AAW ISSN NO: 0389-4045
UNIVERSAL DECIMAL CLASSIFICATION: 616.314-7
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: The purpose of this article is to report on the mechanical properties using the tensile, tear, and 25% elongate strain test. We also investigated the changes in the solid-state movement of materials in a saline and lipid solution approximating physiological conditions. In addition, the necessary properties of facial prosthesis were determined, ranked and evaluated. 1. Mechanical properties Silskin had good results in **tensile strength** and flexibility. Its S to M ratio was 9.2 and its 100% modulus to 25% elongate strain ratio was 5.2. These results indicated that Silskin has superior solid-state balance. In addition, in the in vitro experiment, Silskin showed less change in solid-state movement than that of MDX 4-4210 and E-PTE. 2. Precuring and postcuring properties Silskin satisfied all six of the precuring properties required in facial prosthesis and satisfied 15 out of the 20 postcuring properties required. To promote the improvement of the functional and cosmetic properties of the clinically-used margin seal materials, we chose nine products from six different types of **thermoplastic polymeric materials** and investigated and compared them by mechanical and optical properties and by a patch test. None of the materials had a positive reaction to the patch test. All nine products had strong mechanical properties, as indicated by **tensile** and tear **strength** . In flexibility, as indicated by the 25% elongate strain test, Rabalon, Paraprene, and AD-1C showed little change after the first stage. AD-1C was superior to the other 9 products in optical properties because of its superior non-yellowing property due to the ease of haze adjustment.(abridged author abst.)
DESCRIPTORS: **dental** prosthesis; prosthetic appliance; polysiloxane; maxillofacial prosthesis; medical polymer; **dental** material; mechanical property; physical property
BROADER DESCRIPTORS: **dental** care; therapy; prosthesis; object; inorganic polymer; polymer; oral surgery; operative surgery; reconstructive surgery; medical material; material; macromolecule; property
CLASSIFICATION CODE(S): GT06000B

31/5/49 (Item 17 from file: 94)
DIALOG(R)File 94:JICST-EPlus

00559292 JICST ACCESSION NUMBER: 88A0150685 FILE SEGMENT: JICST-E
Bonding ability of methyl methacrylate-p-styrene sulfonic acid copolymer to dentin.

ISHIHARA KAZUHIKO (1); HONDA NARUMICHI (1); NISHIDA MASATOSHI (1); NAKABAYASHI NOBUO (1)
(1) Tokyo Medical and Dental Univ., Inst. for Medical and Dental Engineering
Shika Zairyo, Kikai(Journal of the Japanese Society for Dental Materials and Devices), 1987, VOL.6,NO.6, PAGE.899-904, FIG.8, TBL.2, REF.11
JOURNAL NUMBER: G0583BAV ISSN NO: 0286-5858
UNIVERSAL DECIMAL CLASSIFICATION: 616.314-7
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: To develop a new bonding agent to dentin methyl methacrylate(MMA)-p-styrene sulfonic acid copolymers(MS copolymer), which are considered to react with calcium in the dentin, were synthesized and their bonding ability was investigated. When a poly(MMA) rod was adhered by the 4-META/MMA-TBB resin to the ground dentin coated with 3% MS copolymer aqueous solution or the dentin etched with 0.3M EDTA and then coated with 0.3% MS copolymer aqueous solution containing 0.02% ferric chloride, the bond strength was 8MPa. This adhesion mechanism was different from that based on the diffusion of monomer into the dentin. Thus, it is possible to obtain products made by the reaction between MS copolymer and calcium in the smear layer and/or dentin combine resin and the dentin.(author abst.)
DESCRIPTORS: composite resin; medical polymer; copolymer; polymethyl methacrylate; **polystyrene** ; polysulfone; dentin; adhesive strength; **tensile strength** ; rupture strength; electron microscopy
BROADER DESCRIPTORS: **dental** material; medical material; material; macromolecule; polymer; polyalkyl methacrylate; polymethacrylate; acrylic resin; thermoplastic; plastic; sulfur-containing polymer; hetero-atom containing polymer; tooth; oral cavity; digestive organ; strength; mechanical property; property; microscopy; observation and view
CLASSIFICATION CODE(S): GT06000B

31/5/50 (Item 18 from file: 94)

00559055 JICST ACCESSION NUMBER: 88A0149759 FILE SEGMENT: JICST-E
Application of the polyaramide fiber to denture base. (Part 1). Study on the reinforcement-effect of the polyaramide fiber to P.M.M.A. resin.
KAWARA MISAO (1); MIWA AKIHIRO (1); SHIRONO TOSHIMORI (1); OKANO MASAKAZU (1); HAMANO KATSUMI (1); OKUTOMI YASUJI (1); NAKAZATO KIMIAKI (1); TATEISHI TESTUYA (2)
(1) Nihon Univ., School of Dentistry at Matsudo; (2) Mechanical Engineering Lab.
Nichidai Koku Kagaku(Nihon University Journal of Oral Science), 1987, VOL.13,NO.4, PAGE.407-412, FIG.4, TBL.2, REF.36
JOURNAL NUMBER: Z0705AAB ISSN NO: 0385-0145
UNIVERSAL DECIMAL CLASSIFICATION: 616.314-7
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: Polyaramide fibers were used to reinforce polymethyletacrylate

resin for the denture base. The fibers were sandwiched between the resin. In order to investigate the validity of the reinforecement, specimens containing 0.2wt%, 0.5wt%, and 0.8wt% of the fiber were subject to bending and tensile tests. Following results were obtained: 1) Bending **elastic modulus** was the maximum when 0.5wt% of the fibers were incorporated. 2) Bending strength was the maximum when 0.8wt% of the fibers were incorporated. 3) The reinforced resins containing 0.5wt% of the fibers showed 40% improvement in bending toughness. 4) **Tensile elastic modulus** was maximum when 0.8wt% of the fibers were incorporated. 5) **Tensile strength** was the maximum when 0.8wt% of the fibers were incorporated.(author abst.)
DESCRIPTORS: denture base; **dental** material; aramid fiber; polymethyl methacrylate; reinforcing material; material testing; bending strength; **tensile strength** ; **elastic modulus**
BROADER DESCRIPTORS: denture; artificial biosystem; equipment; prosthetic appliance; object; medical material; material; **polyamide** fiber; synthetic fiber; man-made fiber; fiber; polyalkyl methacrylate; polymethacrylate; acrylic resin; polymer; thermoplastic; plastic; test; mechanical property; property; strength; coefficient
CLASSIFICATION CODE(S): GT06000B

31/5/51 (Item 19 from file: 94)
DIALOG(R)File 94:JICST-EPlus

00558378 JICST ACCESSION NUMBER: 88A0143951 FILE SEGMENT: JICST-E
Dynamic viscoelastic properties of proprietary tissue conditioners.
KATAKURA NAOYUKI (1); KAWAKAMI MICHIO (1)
(1) Tohoku Univ., Faculty of Dentistry
Shika Zairyo, Kikai(Journal of the Japanese Society for Dental Materials and Devices), 1987, VOL.6,NO.6, PAGE.905-910, FIG.10, TBL.2, REF.7
JOURNAL NUMBER: G0583BAV ISSN NO: 0286-5858
UNIVERSAL DECIMAL CLASSIFICATION: 616.314-7
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: The structure of polymer powder and the dynamic viscoelastic properties of four proprietary tissue conditioners were investigated. The infrared spectra of films of polymer were obtained in the region of 400 to 4,000cm-1. The storage modulus G' and dynamic viscosity .ETA.' were determined over the frequency range of 0.05 to 70Hz at different temperatures. The polymer powders used in three propreietary materials were poly(ethyl methacrylate) and vinyl chloride-vinyl acetate copolymer. The storage modulus G' and dynamic viscosity .ETA.' of a mixuture of powder and liquid increased with time, because of progress of dough-forming and evaporation of the alcohol. By the application of the time-temperature superposition principle for each material, the curves of G' and .ETA.' versus frequencies at different temperatures were supperimposed to a single master curve. The structure of polymer powder had clearly influenced the viscoelastic properties of the materials. The **elastic moduli** of polymethacrylate materials at low frequencies were one order of magnitude lower than those of tissue in several references.(author abst.)
DESCRIPTORS: **dental** material; medical polymer; viscoelasticity; molecular structure; infrared spectrum; temperature dependence; frequency

analysis; polymethacrylic acid; **polyvinyl chloride** ; polyvinyl acetate; copolymer; test piece
BROADER DESCRIPTORS: medical material; material; macromolecule; mechanical property; property; spectrum; dependence; signal analysis; analysis; acrylic resin; polymer; thermoplastic; plastic; chlorine-containing polymer; halogen-containing polymer; polyvinyl ester; sample
CLASSIFICATION CODE(S): GT06000B

31/5/52 (Item 20 from file: 94)
DIALOG(R)File 94:JICST-EPlus

00506408 JICST ACCESSION NUMBER: 87A0542808 FILE SEGMENT: JICST-E
Molecular composite resins for dental **use - Composite PMMA resins reinforced with siloxane ladder polymer.**
KURATA SHIGEAKI (1)
(1) Kanagawa Dental Univ.
Shika Zairyo, Kikai(Journal of the Japanese Society for Dental Materials and Devices), 1987, VOL.6,NO.4, PAGE.529-540, FIG.21, TBL.8, REF.37
JOURNAL NUMBER: G0583BAV ISSN NO: 0286-5858
UNIVERSAL DECIMAL CLASSIFICATION: 616.314-7 678.744/.745
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: New type composites composed of methyl methacrylate and **rigid** siloxane **polymers** , which have a ladder-like structure, have been developed for denture base resins. The polymers prepared at various ratios of 3-methacryloxypropyl trimethoxysilane and phenyl triethoxysilane were white powder, with molecular weights of 10,000 to 20,000. Compressive, diametral **tensile** and bending **strength** of the various PMMA composites. which contained 10 to 15wt% of the siloxane polymers, were 20 to 40% higher than those of polymethylmethacrylate. However, the bending strength and bending modulus of PMMA composites were 20 and 15% higher, respectively than those of the copolymers with same amount of polyfunctional monomers, such as TMPT and Bis-GMA. In view of the degree of crosslink in the various copolymers and the structures of siloxane bond, it is speculated that the copolymer is reinforced not only by cross-linkage with the olefinic double bonds, but by the contribution of rigid ladder structure of the siloxane polymers. The results suggest that the molecular composites of the siloxane polymer-PMMA can be extended to denture base resins.(author abst.)
DESCRIPTORS: **dental** material; denture base; polymethyl methacrylate; polysiloxane; composite material; copolymer; compressive strength; bending strength; **tensile strength**
BROADER DESCRIPTORS: medical material; material; denture; artificial biosystem; equipment; prosthetic appliance; object; polyalkyl methacrylate; polymethacrylate; acrylic resin; polymer; thermoplastic; plastic; inorganic polymer; mechanical property; property; strength
CLASSIFICATION CODE(S): GT06000B; YH07110K

31/5/54 (Item 22 from file: 94)
DIALOG(R)File 94:JICST-EPlus

00174870 JICST ACCESSION NUMBER: 86A0038541 FILE SEGMENT: JICST-E
Molecular design and preparation of a Thermoplastic **-elastomer impression** material . **I. Syntheses of polycaprolactone-poly (dimethylsiloxane) block copolymers.**
ARAKI YOSHIMA (1); HOSOTANI MAKOTO (1); KAWAKAMI MICHIO (1); NAKANISHI MICHIO (2)
(1) Tohoku Univ., Faculty of Dentistry; (2) Daicel Chemical Industries Ltd.
Shika Zairyo, Kikai(Journal of the Japanese Society for Dental Materials and Devices), 1985, VOL.4,NO.2, PAGE.125-133, FIG.5, TBL.4, REF.21
JOURNAL NUMBER: G0583BAV ISSN NO: 0286-5858
UNIVERSAL DECIMAL CLASSIFICATION: 616.314-7
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
DESCRIPTORS: **dental** material; medical polymer; copolymer; chemical synthesis; molecular weight; material testing; functional group analysis; softening point; elasticity(mechanical property); melting; modulus of rigidity
BROADER DESCRIPTORS: medical material; material; macromolecule; polymer; chemical reaction; synthesis; mass(mechanical quantity); mechanical quantity; test; organic analysis; analysis(separation); analysis; temperature; point; mechanical property; property; phase transition; **elastic modulus** ; coefficient; ratio
CLASSIFICATION CODE(S): GT06000B

31/5/55 (Item 23 from file: 94)
DIALOG(R)File 94:JICST-EPlus

00132862 JICST ACCESSION NUMBER: 85A0426284 FILE SEGMENT: JICST-E
Composite PMMA resins reinforced with polyaramide fiber cloths and modified molecules.
SHIMOZATO TAKASHI (1)
(1) Kanagawa Dental Univ.
Shika Zairyo, Kikai(Journal of the Japanese Society for Dental Materials and Devices), 1985, VOL.4,NO.3, PAGE.179-198, FIG.26, TBL.12, REF.80
JOURNAL NUMBER: G0583BAV ISSN NO: 0286-5858
UNIVERSAL DECIMAL CLASSIFICATION: 616.314-7 678.644
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
DESCRIPTORS: **polyphenyleneterephthalamide** ; resin finishing; medical polymer; **dental** material; bending strength; **tensile strength** ; impact strength; surface treatment; bicomponent fiber; composite resin
BROADER DESCRIPTORS: aromatic **polyamide** ; **polyamide** ; polymer; thermoplastic; plastic; working and processing; medical material; material; macromolecule; mechanical property; property; strength; treatment; fiber
CLASSIFICATION CODE(S): GT06000B; YH07050T

31/5/57 (Item 2 from file: 144)
DIALOG(R)File 144:Pascal

14045398 PASCAL No.: 99-0235544
The fabrication and properties of aesthetic FRP wires for use in orthodontics
WATARI F; YAMAGATA S; IMAI T; NAKAMURA S; KOBAYASHI M
School of Dentistry, Hokkaido University, Sapporo 060-8586, Japan; Chiba Institute of Technology, Narashino, Chiba 275, Japan
Journal: Journal of materials science, 1998, 33 (23) 5661-5664
ISSN: 0022-2461 CODEN: JMTSAS Availability: INIST-12733; 354000074497710210
No. of Refs.: 8 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United Kingdom
Language: English
Transparent or translucent fibre-reinforced polymeric wires have been produced in an attempt to reproduce the mechanical properties of the metallic wires in current use in **orthodontics** . Two methods were employed: mould polymerization, and hot-drawing. Both methods produced wires of 0.5 mm diameter. Two polymers were investigated, poly(methyl methacrylate) and epoxy resin, and these were filled with either long silane-coated alumina fibres or fibres made from CPSA glass. Whilst mould-polymerized wires showed a linear increase in **Young** 's **modulus** with fibre content, they did not obey the rule of mixtures. However, the hot-drawn wires did, and they also demonstrated the rigidity, strength and good elastic recovery needed for use in **orthodontics** .

English Descriptors: Composite **material** ; **Thermoplastics** ; Methyl methacrylate **polymer** ; Thermosetting resin; Epoxy resin; Fiber reinforced material; Ceramic fiber-SEC; Alumina-SEC; Glass fiber-SEC; Composite wire; Manufacturing; Property processing relationship; Concentration effect; **Tensile** property; Bending **strength** ; Transparent material; Biomaterial; **Dentistry** ; **Orthodontic procedures** ; Biomedical engineering; Experimental study
Broad Descriptors: Mechanical properties; Propriete mecanique; Propiedad mecanica

French Descriptors: Materiau composite; Thermoplastique; Methacrylate de methyle polymere; Thermodurcissable; Epoxyde resine; Materiau renforce fibre; Fibre ceramique-SEC; Alumine-SEC; Fibre verre-SEC; Fil composite; Fabrication; Relation mise en oeuvre propriete; Effet concentration; Propriete traction; Resistance flexion; Materiau transparent; Biomateriau ; **Dentisterie** ; **Orthodontie** ; Genie biomedical; Etude experimentale

Classification Codes: 001D10A08; 002B26N

31/5/58 (Item 3 from file: 144)
DIALOG(R)File 144:Pascal

13307029 PASCAL No.: 98-0031334
Preparation and evaluation of visible light-cured multi-methacrylates for dental **composites**
CULBERTSON B M; WAN Q; TONG Y

College of Dentistry, The Ohio State University, 305 West 12th Avenue, Columbus, Ohio 43210, United States
Journal: Journal of macromolecular science. Pure and applied chemistry, 1997, 34 (12) 2405-2421
ISSN: 1060-1325 Availability: INIST-13622A; 354000079684650020
No. of Refs.: 20 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United States
Language: English
To explore new VLC oligomers exhibiting low shrinkage, low water sorption, and improved mechanical properties, a family of multi-methacrylates, based on poly(isopropylidenediphenol) resin (BPA), was synthesized, characterized, and evaluated. The BPA resin, having an average of eight phenolic hydroxyl groups per molecule, was treated with ethylene carbonate and the resultant product esterified at four different grafted levels, using methacryloyl chloride. Structures of these EEBPA oligomers, were confirmed by FT-IR and SUP 1 SUP 3 C NMR. The EEBPA oligomer/TEGDMA (50/50, w/w) blends were combined with 0.5 wt% camphoroquinone(CQ) and 1.0 wt% N,N-dimethylaminoethyl methacrylate (DMAEM). The control was BisGMA/TEGDMA (50/50, w/w) blends having the same levels of CQ/DMAEM. Differential photocalorimetry (DPC) and differential scanning calorimetry (DSC) showed the multi-methacrylate/TEGDMA (neat resin) blends have polymerization characteristics comparable to the BisGMA/TEGDMA control. These multi-functional oligomers have lower polymerization shrinkage and lower uptake of water and other liquids. In addition, two experimental oligomers EEBPA #2 and #3 have higher compressive strength than the BisGMA and comparable diametral **tensile strength** to the BisGMA control. These results suggest that the new type of multi-functional methacrylate oligomers (EEBPA) have potential application in formulating **dental** composites with improved properties.

English Descriptors: **Phenylene** derivative polymer; Light sensitive polymer; Oligomer; Preparation; Chemical modification; Chemical reactivity; Photochemical crosslinking; Visible radiation; Heat of reaction; Shrinkage; Mechanical properties; Water absorption; Methacrylate polymer; Crosslinked polymer; Biomaterial; **Dental** restauration; Experimental study

French Descriptors: **Phenylene** derive polymere; Polymere photosensible; Oligomere; Preparation; Modification chimique; Reactivite chimique; Reticulation photochimique; Rayonnement visible; Chaleur reaction; Retrait; Propriete mecanique; Absorption eau; Methacrylate polymere; Polymere reticule; Biomateriau; **Dentisterie** restauratrice; Etude experimentale; Composite dentaire

Classification Codes: 001D09B01; 002B25C02

31/5/59 (Item 1 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

01017783 F96080054959
Prothesenkunststoffe - gestern, heute und morgen? Die dominierende Rolle

des PMMA, verschiedene Verarbeitungsverfahren und Verbesserungsoptionen
Janda, R
Phillip Journal. Kompendium fuer den Fortschritt in der Zahnmedizin, v13, n3-4, pp93-98, 1996
Document type: journal article Language: German
Record type: Abstract
ISSN: 0174-5980

ABSTRACT:
Aufgrund seines guten chemischen und physikalischen Verhaltens und seiner einfachen Verarbeitungsmoeglichkeiten hat sich PMMA als Prothesenkunststoff bewaehrt. Klassifiziert wird PMMA nach Chemie (Polyazetale, **Polyamide** , Polykarbonate, Poly,ethakrylate, PVC/PMMA-Mischpolymere) und nach Verarbeitungstechnik (Stopf- und Presstechnik, Injektionstechnik, Giesstechnik, Schmelzen, Pressen). Fuer das Spritzgussverfahren werden Vor- und Nachteile thermoplastischer Kunststoffe dargelegt. Herkoemmliche Kaltpolymere sind nicht farbstabil und haben einen hohen Restmonomergehalt. Das Initiatorsystem basiert auf tertiaeren aromatischen Aminen und Dibenzoylperoxid. Die Hauptbestandteile der neuen Produkte sind besondere Abkoemmlinge der Barbitursaeuren und gleichen in ihren physikalischen Eigenschaften und der Farbstabilitaet den Heisspolymeren. Sie erreichen nach dem vierten Tag eine Restmonomerfreisetzung, die der Heisspolymere entspricht. Forderungen an zukuenftige Prothesenkunststoffe werden formuliert sowie Vorschlaege fuer eine optimale Kombination aus Material (einkomponentig, MMA-frei, biokompatibel, schnell polymerisierbar) und Verarbeitungstechnik (Licht- und Heisspolymerisation).

DESCRIPTORS: **DENTAL** PROSTHESIS; ACRYL GLASS; HISTORY OF MEDICINE; CAOUTCHOUC; EPOXIDE RESINS; INJECTION MOULDING; POLYMERIZATION; CURING--MATERIAL; MICROWAVES; GYPSUM; POLYCARBONATE; **ELASTIC MODULUS** ; DEVELOPMENTAL TREND; ODOR; CYTOCOMPATIBILITY; EFFICIENCY--PROFITABILITY; MONOMERS; FUSION--MELTING; TEMPORAL DEPENDENCE; TEMPERATURE DEPENDENCE; PRODUCT QUALITY
IDENTIFIERS: INJEKTIONSTECHNIK; PASSGENAUIGKEIT; Zahnprothese; PMMA; Verarbeitung
?

NPL Bibliographic Database Search #2

Search Strategy

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Set     Items   Description
S1       2661   DENTAL? OR DENTIST? OR ORTHODONT? OR PROSTHODONT? OR (ORTHO
             OR PROSTHO)()DONTIC? OR ODONTOLOG?
S2      19385   ARYLEN? OR POLYARYLEN? OR HETEROARYLEN? OR POLYHETEROARYLE-
             N? OR PARMAX OR POLY()X OR PHENYLEN? OR PARAPHENYLEN? OR POLY-
             PHENYLEN? OR RIGID(3W)(POLYMER? OR COPOLYMER? OR HOMOPOLYMER?)
S3     172385   (THERMOPLASTIC? OR THERMO()PLASTIC?)(3N)(POLYMER? OR COPOL-
             YMER? OR HOMOPOLYMER? OR MATERIAL? ?) OR POLYVINYL()(CHLORIDE?
              OR ALCOHOL) OR POLYAMIDE? OR POLYFLUOROCARBON? OR POLYOLEFIN?
              OR POLYSTYRENE?
S4       1845   UNREINFORC? OR UNREENFORC? OR ("NOT" OR NONE OR NO OR UN OR
              WITHOUT OR "WITH"()OUT OR NON)(2W)(REINFORC? OR REENFORC? OR
             STRENGTHEN?)
S5      22664   TENSILE(2N)(STRENGTH OR STRESS) OR (YIELD OR ULTIMATE OR B-
             REAKING)()STRENGTH
S6      16548   (TENSILE OR ELASTIC? OR YOUNG? ? OR SHEAR OR BULK)(2N)(MOD-
             ULUS OR MODULI)
S7         18   S1 AND S2
S8          0   S1 AND S3 AND S4 AND S5:S6
S9         15   S1 AND S3 AND S5:S6
S10         4   (S7 OR S9)/2003:2006
S11        29   (S7 OR S9) NOT S10

File 323:RAPRA Rubber & Plastics 1972-2006/Aug
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Search Results

11/5/1

DIALOG(R)File 323:RAPRA Rubber & Plastics
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00893280

TITLE: NEW ORGANIC POLYACID-INORGANIC COMPOSITES FOR IMPROVED DENTAL **MATERIALS**

AUTHOR(S): Dotrong M H; Schricker S R; Culbertson B M

CORPORATE SOURCE: Ohio,State University

CONFERENCE PROCEEDINGS: ACS Polymeric Materials: Science and Engineering. Spring Meeting. Volume 86. Proceedings of a conference held Orlando, Fl., 7th-11th April 2002

CORPORATE EDITOR: ACS,Div.of Polymeric Materials Science & Engng.

SOURCE: Washington, D.C., ACS, Div.of Polymeric Materials Science & Engng., 2002, p.76-7, CD-ROM, 012

JOURNAL ANNOUNCEMENT: 200310 RAPRA UPDATE: 200318

DOCUMENT TYPE: Conference Papers

LANGUAGE: English

SUBFILE: (R) RAPRA

ABSTRACT: N-Vinylpyrrolidone (NVP) was copolymerised with acrylic acid (AA) and maleic acid (MA) in various molar ratios to produce poly(AA-co-MA-co-NVP) copolymers. Aqueous copolymer solutions were

blended with calcium fluoroaluminosilicate glass powder to form glass-ionomers for use as **dental** materials. An exceptional improvement in the flexural strength was observed for all the copolymers. 11 refs.

SUBJECT HEADING (RAPRA): VINYL PYRROLIDONE COPOLYMERS, reinforced plastics, hybrid composites, synthesis, mechanical properties, **dental** applications; ACRYLIC ACID COPOLYMERS, reinforced plastics, hybrid composites, synthesis, mechanical properties, **dental** applications; MALEIC ANHYDRIDE COPOLYMERS, reinforced plastics, hybrid composites, synthesis, mechanical properties, **dental** applications; REINFORCED PLASTICS, vinyl pyrrolidone copolymers, acrylic acid copolymers, maleic acid copolymers, hybrid composites, synthesis, mechanical properties, **dental** applications; COMPOSITES, vinyl pyrrolidone copolymers, acrylic acid copolymers, maleic acid copolymers, hybrid, synthesis, mechanical properties, **dental** applications; SYNTHESIS, vinyl pyrrolidone copolymers, acrylic acid copolymers, maleic acid copolymers, reinforced plastics, hybrid composites; MECHANICAL PROPERTIES, vinyl pyrrolidone copolymers, acrylic acid copolymers, maleic acid copolymers, reinforced plastics, hybrid composites; **DENTAL** APPLICATIONS, vinyl pyrrolidone copolymers, acrylic acid copolymers, maleic acid copolymers, reinforced plastics, hybrid composites

TRADE NAMES: FUJI II; FUJI IX

IDENTIFIERS (Non-Polymer Terms): CALCIUM FLUOROALUMINOSILICATE; CARBON 13; CARBON-13

GEOGRAPHIC LOCATION: USA

DESCRIPTORS: ACRYLIC ACID COPOLYMER; APPLICATION; CHARACTERISATION; CHARACTERIZATION; CHEMICAL STRUCTURE; COMPANIES; COMPANY; COMPOSITE; COMPRESSION PROPERTIES; COMPRESSIVE STRENGTH; COPOLYMER COMPOSITION; COPOLYMERISATION; COPOLYMERIZATION; DATA; **DENTAL** APPLICATION; **DENTAL** CEMENT; FLEXURAL MODULUS; FLEXURAL PROPERTIES; FLEXURAL STRENGTH; FOURIER TRANSFORM INFRARED SPECTROSCOPY; FTIR SPECTROSCOPY; HYBRID COMPOSITE; INSTITUTION; MALEIC ACID COPOLYMER; MECHANICAL PROPERTIES; MOLAR RATIO; MOLE RATIO; MOLECULAR STRUCTURE; NMR SPECTROSCOPY; NUCLEAR MAGNETIC RESONANCE; ORGANIC-INORGANIC COMPOSITE; PLASTIC; POLYMERISATION; POLYMERIZATION; PROPERTIES; PROTON; REACTION CONDITIONS ; REINFORCED PLASTIC; REINFORCED PLASTICS; RHEOLOGICAL PROPERTIES; SPECTROSCOPY; STRESS; SURGICAL ADHESIVE; TABLES; TECHNICAL; **TENSILE** PROPERTIES; **TENSILE STRENGTH** ; **THERMOPLASTIC** ; THERMOSET; VINYL PYRROLIDONE **COPOLYMER** ; VINYLPYRROLIDONE COPOLYMER; VISCOSITY; YIELD STRESS

RAPRA CLASSIFICATION CODE: 42C3(11)21A; 42C3411A; 42C3421A; 627; 51; 951; 6S9

CATEGORY CODES: KN; KK; KG; OK; MB; UG; QQ

11/5/2

00840741

TITLE: SYNTHESIS AND CHARACTERISATIONS OF HYDROGEL BASED ON PVA-AE AND HEMA

AUTHOR(S): Kuo S M; Liou C C; Chang S J; Wang Y-J

CORPORATE SOURCE: Taiwan,National Yang Ming University; Taiwan,I-Shou University

SOURCE: Journal of Polymer Research; 8, No.3, 2001, p.169-74

ISSN: 1022-9760

JOURNAL ANNOUNCEMENT: 200203 RAPRA UPDATE: 200204
DOCUMENT TYPE: Journal Article
LANGUAGE: English
SUBFILE: (R) RAPRA
ABSTRACT: PVA-AE, an etherification product of **polyvinyl alcohol** and allyl bromide, is synthesised and copolymerised with HEMA (2-hydroxyethyl methyl methacrylate) to obtain two copolymers: co-E1H9 (10% PVA-AE/90% HEMA, w/w) and co-E2H8 (20% PVA-AE/80% HEMA). The presence of PVA-AE reduces the water content from 32% to 27% in the resultant copolymer. The co-E2H8 copolymer has a higher tensile and lower **elastic modulus** as compared with polyHEMA and co-E1H9. A cell culture test shows that the copolymers resist cell attachment. The PVA-AE derivatives are also tested for their dentine ability as an additive to HEMA. The results indicate that the dentine **tensile** bonding **strength** attained by the mixture of PVA-AE in HEMA is lower than that of the PVA-AA/HEMA dentine bonding agent developed previously. The PVA-AE/HEMA copolymers have great potential for application as the material for anti-adhesion membranes. 19 refs.
SUBJECT HEADING (RAPRA): ACRYLIC COPOLYMERS, **dental** applications, hydrogels; VINYL ALCOHOL COPOLYMERS, **dental** applications, hydrogels; HYDROGELS, acrylic copolymers, vinyl alcohol copolymers, **dental** applications; **DENTAL** APPLICATIONS, acrylic copolymers, vinyl alcohol copolymers, hydrogels
IDENTIFIERS (Non-Polymer Terms): ALLYL BROMIDE
GEOGRAPHIC LOCATION: TAIWAN
DESCRIPTORS: APPLICATION; BONDING AGENT; CONTACT ANGLE; DATA; **DENTAL** APPLICATION; FILM; FILMS; GRAPH; HYDROGEL; HYDROXYETHYL METHACRYLATE COPOLYMER; INFRA-RED SPECTRA; INFRARED SPECTRA; INFRARED SPECTROPHOTOMETRY; INFRARED SPECTROSCOPY; INSTITUTION; IR SPECTRA; IR SPECTROMETRY; IR SPECTROSCOPY; IR SPECTRUM; MECHANICAL PROPERTIES; MOISTURE CONTENT; NMR SPECTROSCOPY; NUCLEAR MAGNETIC RESONANCE; PLASTIC ; PROPERTIES; TABLES; TECHNICAL; TENSILE PROPERTIES; THERMOPLASTIC; VIBRATIONAL SPECTROSCOPY; VINYL ALCOHOL COPOLYMER; WATER CONTENT
RAPRA CLASSIFICATION CODE: 6123; 42C11C311; 42C3512A; 6S9
CATEGORY CODES: OB; QQ; KK; KH

11/5/3
DIALOG(R)File 323:RAPRA Rubber & Plastics

00832702
TITLE: NOW THEY WANT PLASTICS TO BE HEAVY?
AUTHOR(S): Leaversuch R D
SOURCE: Plastics Technology; 47, No.6, June 2001, p.58/63
ISSN: 0032-1257
CODEN: PLTEAB JOURNAL ANNOUNCEMENT: 200201 RAPRA UPDATE: 200125
DOCUMENT TYPE: Journal Article
LANGUAGE: English
SUBFILE: (R) RAPRA
ABSTRACT: This detailed article discusses the high-gravity compounds (HGCs), a new and growing niche for metal replacement in applications that need some heft. This relatively-new category consists of thermoplastics containing 40-96 percent by weight of mineral filler or metal powder. They have densities of up to 15g/cc and yet still have the mouldability of plastics, and are more environmentally-friendly than the metals they are replacing.

SUBJECT HEADING (RAPRA): DENSITY, high gravity compounds
TRADE NAMES: THERMOCOMP HSG; ECOMASS; ENDURAN; VALOX NBV401; NJ96
COMPANY NAME: LNP ENGINEERING PLASTICS; US,ARMY; POLYONE CORP.; RTP CO.; GE PLASTICS; IDEAS TO MARKET LP; PING INC.; XITEC; HOFFINGER INDUSTRIES; LA MAISON SISLEY; DAY M.,ENTERPRISES INC.; WASHINGTON PENN PLASTICS CO.INC.; MULTIBASE INC.; US,ARMY
IDENTIFIERS (Non-Polymer Terms): ALUMINIUM; ALUMINUM; ANTIMONY; BARIUM SULFATE; BARIUM SULPHATE; BRASS; CALCIUM CARBONATE; FERRITE; GLASS; LEAD; METAL; NICKEL; SILICATE; STEEL; TALC; TALCUM; TUNGSTEN; ZINC
GEOGRAPHIC LOCATION: CANADA; EUROPEAN COMMUNITY; EUROPEAN UNION; FRANCE; NORTH AMERICA; SCANDINAVIA; TAIWAN; USA; WESTERN EUROPE; WORLD
DESCRIPTORS: APPLICATION; CERAMIC; COLOR; COLOUR; COMPANIES; COMPANY; COMPOUND; COST; COSTS; DENSITY; **DENTAL** APPLICATION; DESIGN; DIE CASTING; ECONOMIC INFORMATION; ELECTROMAGNETIC SHIELDING; ENVIRONMENTALLY FRIENDLY; FILLER; FISHING; FISHING APPLICATION; FLEXURAL PROPERTIES; FLEXURAL STRENGTH; FLOW; FORMULATION; GOLF CLUB; HEALTH HAZARD; IMPACT PROPERTIES; IMPACT STRENGTH; IN-MOLD DECORATING; IN-MOULD DECORATING; INJECTION MOLDING; INJECTION MOULDING; LICENCE; LIGHTWEIGHT; MANUFACTURER; MANUFACTURING; MARKET; MATERIAL REPLACEMENT; MATERIALS SUBSTITUTION; MECHANICAL PROPERTIES; MEDICAL APPLICATION; MILITARY APPLICATION; NUCLEAR ENERGY; NUCLEAR POWER; NYLON-12; NYLON-6; ORIGINAL EQUIPMENT; PEN; PERFORMANCE; PLANT; PLASTIC; **POLYAMIDE** -12; **POLYAMIDE** -6; POLYPROPENE; POLYPROPYLENE; PP; PRICE; PROCESS; PROCESSING; PRODUCT ANNOUNCEMENT; PROPERTIES; REJECT RATE; SAFETY; SPECIFIC GRAVITY; TABLES; **TENSILE** PROPERTIES; **TENSILE STRENGTH** ; THERMAL CONDUCTIVITY; THERMOPLASTIC; THERMOSET; TOXICITY; WEIGHT REDUCTION; X-RAY
RAPRA CLASSIFICATION CODE: 9(12)1
CATEGORY CODES: UM

11/5/4
DIALOG(R)File 323:RAPRA Rubber & Plastics

00752328
TITLE: URETHANE TETRAMETHACRYLATES; NOVEL SUBSTITUTES AS RESIN MATRIX IN RADIOPAQUE DENTAL **COMPOSITES**
AUTHOR(S): Krishnan V K; Lizymol P P; Nair S P
CORPORATE SOURCE: Sree Chitra Tirunal Inst.for Med.Sci.& Technology
SOURCE: Journal of Applied Polymer Science; 74, No.3, 17th Oct.1999, p.735-46
ISSN: 0021-8995
CODEN: JAPNAB JOURNAL ANNOUNCEMENT: 200001 RAPRA UPDATE: 199926
DOCUMENT TYPE: Journal Article
LANGUAGE: English
SUBFILE: (R) RAPRA
ABSTRACT: **Dental** composites used in conservative and **orthodontic dentistry** are based on bisphenol A-glycidyl methacrylate (BIS-GMA) resin. However, certain limitations, such as high viscosity and handling difficulties, restrict the use of BIS-GMA and attempts have been made to modify the resin or to seek alternate materials. The synthesis and characterisation of a urethane tetramethacrylate resin (UTMA) is reported, which when reinforced with a silanated radiopaque glass filler, is found to provide composite pastes with superior properties. Composite pastes with formulations of varying BIS-GMA/UTMA blend ratios are prepared and their effect on the compressive **strength**

, diametral **tensile strength** , transverse **strength** , Vickers microhardness, water sorption and opacity are studied. The photoinitiator concentration is varied for 100% urethane-based composite and its optimum concentration standardised. 13 refs.
SUBJECT HEADING (RAPRA): URETHANE METHACRYLATE COPOLYMERS, **dental** applications, composites; **DENTAL** APPLICATIONS, composites, urethane methacrylate copolymers; COMPOSITES, urethane methacrylate copolymers, **dental** applications
GEOGRAPHIC LOCATION: INDIA
DESCRIPTORS: APPLICATION; COMPANIES; COMPANY; COMPOSITE; DATA; **DENTAL** APPLICATION; EQUATION; FOURIER TRANSFORM INFRARED SPECTROSCOPY; FTIR; FTIR SPECTROSCOPY; IR SPECTROSCOPY; MECHANICAL PROPERTIES; METHACRYLATE COPOLYMER; METHACRYLIC ESTER COPOLYMER; PHYSICAL PROPERTIES; PLASTIC; PROPERTIES; TECHNICAL; TENSILE PROPERTIES; **THERMOPLASTIC** ; URETHANE **COPOLYMER**
RAPRA CLASSIFICATION CODE: 43C6A; 42C351A; 6S9; 627
CATEGORY CODES: QQ; OK; KT; KK

11/5/5
DIALOG(R)File 323:RAPRA Rubber & Plastics

00733457
TITLE: BAYER PLASTICS FOR MEDICAL AND LABORATORY EQUIPMENT. 3RD EDITION
CORPORATE SOURCE: Bayer AG,Plastics Busin.Gp.
SOURCE: Leverkusen, 1998, pp.40. 30cms. 12/4/99
JOURNAL ANNOUNCEMENT: 199908 RAPRA UPDATE: 199914
DOCUMENT TYPE: Trade Literature
LANGUAGE: English
SUBFILE: (R) RAPRA
ABSTRACT: This brochure provides an overview of the range of Bayer engineering plastics available for use in medical and laboratory equipment. The materials include **polyamides** , polycarbonates, ABS, polyurethane, PBT, and styrene-acrylonitrile copolymers, which are suitable for use in such applications as films for sterile packs, oxygenators, babies' bottles, and artificial organs. The characteristics and typical uses of each product family are described, while detailed tables provide a comparison of selected properties of the material grades most commonly used in the medical sector, together with brief notes on their physiological properties, sterilisation and processing methods. Notes on the cleaning, disinfection and sterilisation of Bayer plastics are provided, as well as biocompatibility indications and biological assessment results.
SUBJECT HEADING (RAPRA): COMPANY INFORMATION, Bayer, medical applications , laboratory apparatus, engineering plastics; MEDICAL APPLICATIONS, company information, engineering plastics; LABORATORY APPARATUS, company information, engineering plastics; ENGINEERING PLASTICS, medical applications, laboratory apparatus, company information
TRADE NAMES: MAKROLON; MAKROLON DP 1-805; MAKROLON 2858; MAKROFOL; BAYFOL; APEC HT; APEC HT KU 109331; APEC HT KU 1-9340; APEC HT KU 1-9350; APEC HT KU 1-9361; APEC HT KU 1-9371; DESMOPAN; TEXIN; TEXIN 5286; TEXIN 5265; NOVODUR; LUSTRAN ABS; LUSTRAN ABS 348; BAYBLEND; BAYBLEND FR 90; BAYBLEND FR 110; BAYBLEND T 45; BAYBLEND T 65; BAYBLEND T 85; LUSTRAN SAN; LUSTRAN SAN 32; TRIAX; TRIAX 1120; CADON; CADON 127; CENTREX; DURETHAN T 40; POCAN B 1501; POCAN B 3235; POCAN S 1506; SILOPREN LSR; BAYDUR; BAYDUR 60;

MAKROLON 2658; NOVODUR P2H-AT; CENTREX 837; DURETHAN C 38F; DURETHAN BKV 30 F; BAYDUR 110; MAKROLON 3108; MAKROLON 1239; MAKROLON 2808; NOVODUR P2L-AT; DESMOPAN 385; MAKROLON 2405; MAKROLON RX 2530; DURETHAN B 30 S; MAKROFOL DE 1-1
GEOGRAPHIC LOCATION: EUROPEAN COMMUNITY; EUROPEAN UNION; GERMANY; WESTERN EUROPE
DESCRIPTORS: ABRASION RESISTANCE; ABRASION RESISTANT; ABS; ACRYLONITRILE-STYRENE COPOLYMER; AMIDE COPOLYMER; APPLICATION; BABY FEED BOTTLE; BED; BELLOWS; BIOCOMPATIBILITY; BIOCOMPATIBLE; BIOLOGICAL; BIOMEDICAL APPLICATION; BLEND; BLOOD CONTACT APPLICATION; BLOW MOLDING; BLOW MOULDING; BOTTLE; CAPROLACTAM POLYMER; CARBONATE POLYMER; CATHETER ; CHEMICAL PROPERTIES; CHEMICAL RESISTANCE; CHEMICAL RESISTANT; CLAMP; CLEANING; COMPANIES; COMPANY; COMPOSITE; COPOLYAMIDE; CYTOTOXICITY; DATA; DENSITY; **DENTAL** APPLICATION; DIAGNOSTIC APPLICATION; DIALYSIS; DIMENSIONAL STABILITY; DISINFECTION; DUMMY; EB; ELASTOMER; ELECTRICAL PROPERTIES; ELONGATION AT BREAK; ENGINEERING APPLICATION; ENGINEERING PLASTIC; EXTRUDING; EXTRUSION; FILM; FILMS; FILTER; FLAME PROOFING; FLAME RETARDANCE; FLAME RETARDANT; FLEXURAL PROPERTIES; FLEXURAL STRENGTH; FLOW; FRACTURE RESISTANCE; GAS STERILISATION; GAS STERILIZATION; GRAPH; HARDNESS; HEALTH HAZARD; HEARING AID; HEAT DEFLECTION TEMPERATURE; HEAT RESISTANCE; HOUSING; IMPACT PROPERTIES; IMPACT STRENGTH; INHALER; INJECTION MOLDING; INJECTION MOULDING; INTRAVENOUS DEVICE; LABORATORY EQUIPMENT; LAPAROSCOPE; LIGHT DEGRADATION; LIGHT STABILITY; LIQUID RUBBER; MATERIALS SELECTION; MECHANICAL PROPERTIES; MEDICAL APPLICATION; MEDICAL EQUIPMENT; MOLDING; MONITORING; MOULDING; NYLON-6; NYLON-6-6; OXYGENATOR; PACKAGING; PBTP; PHYSIOLOGY; PLASTIC; POLY-EPSILON-CAPROLACTAM; **POLYAMIDE** -6; **POLYAMIDE** -6,6; POLYBUTYLENE TEREPHTHALATE; POLYCAPROAMIDE; POLYCAPROLACTAM; POLYCARBONATE; POLYURETHANE; POLYURETHANE ELASTOMER; PROCESS; PROCESSING; PROPERTIES; PU; PU ELASTOMER; PUMP; RADIATION STERILISATION; RADIATION STERILIZATION; REACTION INJECTION MOLDING; REACTION INJECTION MOULDING; REACTION MOULDING; REGULATION; REINFORCED PLASTIC; REINFORCED PLASTICS; RESILIENCE; RESILIENT; RESPIRATOR; REVIEW ; RUBBER; SAN; SEAL; **SHEAR MODULUS** ; SILICONE ELASTOMER; SILICONE RUBBER; SKIN-CONTACT; STANDARD; STEAM STERILISATION; STEAM STERILIZATION; STERILISATION; STERILIZATION; STYRENE-ACRYLONITRILE COPOLYMER; STYRENE-MALEIC ANHYDRIDE COPOLYMER; SYRINGE; TABLES; TECHNICAL; TEST METHOD; TESTING; THERMAL PROPERTIES; THERMAL STABILITY; THERMOFORMING; THERMOPLASTIC; THERMOPLASTIC ELASTOMER; THERMOPLASTIC RUBBER; THERMOSET; TOUGHNESS; TOXICITY; TRANSPARENT; TUBING; VICAT SOFTENING POINT; VICAT SOFTENING TEMPERATURE; WEAR RESISTANCE; WEAR RESISTANT; WHEELCHAIR
RAPRA CLASSIFICATION CODE: 6S
CATEGORY CODES: QQ

11/5/7
DIALOG(R)File 323:RAPRA Rubber & Plastics

00698825
TITLE: ETPS TAKE THE HEAT
SOURCE: Plastics and Rubber Weekly; No.1758, Suppl., 16th Oct.1998, p.22
ISSN: 0032-1168
JOURNAL ANNOUNCEMENT: 199901 RAPRA UPDATE: 199825
DOCUMENT TYPE: Journal Article
LANGUAGE: English

SUBFILE: (R) RAPRA
ABSTRACT: It is briefly reported that Ensinger will be presenting its expertise in the use of high temperature thermoplastics in biomedical engineering at K'98. The company supplies high performance resins such as PDU, PEI, PPSU and PEEK for the manufacture of parts such as protective tubes and handles.
SUBJECT HEADING (RAPRA): MEDICAL APPLICATIONS, engineering thermoplastics; ENGINEERING THERMOPLASTICS, medical applications
COMPANY NAME: ENSINGER
GEOGRAPHIC LOCATION: EUROPEAN COMMUNITY; EUROPEAN UNION; GERMANY; WESTERN EUROPE
DESCRIPTORS: APPLICATION; COMPANIES; COMPANY; DATA; **DENTAL** APPLICATION; DIALYSIS; ENDOSCOPE; ENGINEERING PLASTIC; ENGINEERING THERMOPLASTIC; HANDLE; HEAT RESISTANCE; MEDICAL APPLICATION; PEEK; PEI; PLASTIC; POLYETHER-ETHERKETONE; POLYETHERIMIDE; **POLYPHENYLENE** SULFONE; **POLYPHENYLENE** SULPHONE; SERVICE TEMPERATURE; SHORT ITEM; STERILISATION ; STERILIZATION; THERMAL STABILITY; THERMOPLASTIC; TRAY; TUBE; VALVE; WATER JET
RAPRA CLASSIFICATION CODE: 6S; 63E
CATEGORY CODES: QQ; PJ

11/5/8
DIALOG(R)File 323:RAPRA Rubber & Plastics

00685289
TITLE: ELASTOMERS FOR BIOMEDICAL APPLICATIONS
AUTHOR(S): Yoda R
CORPORATE SOURCE: Nippon Zeon Co.Ltd.
SOURCE: Journal of Biomaterials Science : Polymer Edition; 9, No.6, 1998, p.561-626
JOURNAL ANNOUNCEMENT: 199809 RAPRA UPDATE: 199817
DOCUMENT TYPE: Journal Article
LANGUAGE: English
SUBFILE: (R) RAPRA
ABSTRACT: Elastomeric biomaterials, e.g. silicones, thermoplastic elastomers, **polyolefin** and polydiene elastomers, PVC, NR, heparinised polymers, hydrogels, polypeptide elastomers, are described. Biomedical applications, e.g. cardiovascular devices, prosthetic devices, general medical care products, transdermal therapeutic systems, **orthodontics** , and ophthalmology, are reviewed. Elastomers offer biocompatibility, durability, design flexibility, and favourable performance/cost ratios. 482 refs.
SUBJECT HEADING (RAPRA): BIOMEDICAL APPLICATIONS
SUBJECT HEADING (Adhesives): BIOMEDICAL APPLICATIONS
GEOGRAPHIC LOCATION: JAPAN
DESCRIPTORS: ACRYLIC POLYMER; ADHESIVE; ALKENE POLYMER; AMIDE POLYMER; APPLICATION; BIOCOMPATIBILITY; BIOCOMPATIBLE; BIOMATERIAL; BIOMEDICAL APPLICATION; BR; BUTADIENE POLYMER; BUTADIENE-ACRYLONITRILE COPOLYMER; BUTYL RUBBER; CARDIOVASCULAR DEVICE; CATHETER; CHEMICAL PROPERTIES; CHEMICAL STRUCTURE; COMPANIES; COMPANY; COPOLYESTER; COST; COSTS; CURING SYSTEM; DATA; **DENTAL** APPLICATION; DESIGN; DIENE POLYMER; DIOLEFIN POLYMER; DRUG DELIVERY; DRUG RELEASE; DURABILITY; EB; ELASTOMER; ELONGATION AT BREAK; EPDM; EQUATION; ESTER COPOLYMER; ETHYLENE-PROPYLENE-DIENE TERPOLYMER; FILM; FILMS; FLEXIBILITY; FLEXIBLE ; GLOVE; GRAPH; HEPARINISED; HEPARINIZED; HYDROGEL; IIR; IMPLANT; LATEX

; LATICES; LENS; LENSES; MECHANICAL PROPERTIES; MEDICAL APPLICATION; MODULI; MODULUS; MOLECULAR STRUCTURE; NATURAL RUBBER; NITRILE RUBBER; NR; NYLON; OLEFIN POLYMER; OPHTHALMIC APPLICATION; PERFORMANCE; PETP; PHARMACEUTICAL APPLICATION; PHOSPHAZENE POLYMER; PHYSICAL PROPERTIES; PLASTIC; POLYALKENE; **POLYAMIDE** ; POLYBUTADIENE; POLYDIENE; POLYDIOLEFIN; POLYETHYLENE TEREPHTHALATE; **POLYOLEFIN** ; POLYPEPTIDE; POLYPHOSPHAZENE; POLYURETHANE; **POLYVINYL CHLORIDE** ; PROPERTIES; PROSTHESIS; PU; PVC; RESEARCH; REVIEW; RUBBER; SATURATED POLYESTER; SILICONE ELASTOMER; SILICONE RUBBER; STERILISATION; STERILIZATION; STYRENE BLOCK COPOLYMER; STYRENE COPOLYMER; TABLES; TECHNICAL; **TENSILE** PROPERTIES; **TENSILE STRENGTH** ; TEST; THEORY; THERAPEUTIC APPLICATION; THERMOPLASTIC; THERMOPLASTIC ELASTOMER; THERMOPLASTIC RUBBER; TRANSCUTANEOUS; TRANSDERMAL; TUBING; URETHANE POLYMER; WOUND DRESSING; PET

RAPRA CLASSIFICATION CODE: 6S
CATEGORY CODES: QQ
ADHESIVES CATEGORY CODES: ALP

11/5/10

DIALOG(R)File 323:RAPRA Rubber & Plastics

00616920
TITLE: ENGINEERING POLYMERS
AUTHOR(S): Madruga E L
CORPORATE SOURCE: Instituto de Ciencia y Tecnologia de Polimeros
SOURCE: Revista de Plasticos Modernos; 70, No.469, July 1995, p.21-8
ISSN: 0034-8708
CODEN: RPMOAM JOURNAL ANNOUNCEMENT: 199703 RAPRA UPDATE: 199705
DOCUMENT TYPE: Journal Article
LANGUAGE: Spanish
SUBFILE: (R) RAPRA
ABSTRACT: An examination is made of the properties and applications of a number of engineering plastics and speciality polymers, including polyamides, PETP, PBTP, polyarylates, polyether-etherketones, polyimides, polyamide-imides, polyetherimides, polysulphones, **polyphenylene** sulphide, **polyphenylene** oxide, polyacetals, polycarbonates, liquid crystal polymers, photosensitive and electrically conductive polymers, and polymers used as biomaterials.
SUBJECT HEADING (RAPRA): ENGINEERING PLASTICS, properties, applications; LIQUID CRYSTALLINE POLYMERS, properties, applications; BIOMEDICAL APPLICATIONS, plastics, rubbers; PHOTOSENSITIVITY, plastics; BIOMATERIALS, plastics, rubbers; CONDUCTIVE POLYMERS, plastics, properties, applications; ELECTRICAL PROPERTIES, conductivity, plastics
GEOGRAPHIC LOCATION: EUROPEAN COMMUNITY; EUROPEAN UNION; SPAIN; WESTERN EUROPE
DESCRIPTORS: ACETAL COPOLYMER; ACETYLENE POLYMER; ACRYLATE POLYMER; ACRYLIC ESTER POLYMER; ACRYLIC POLYMER; ALKENE POLYMER; AMIDE POLYMER; APPLICATION; ARTIFICIAL ORGAN; BATTERY; BIOCOMPATIBILITY; BIOCOMPATIBLE ; BIOMATERIAL; BIOMEDICAL APPLICATION; BIOPOLYMER; BISPHENOL A POLYCARBONATE; BISPHENOL-A POLYCARBONATE; BLEND; CARBONATE POLYMER; CHEMICAL MODIFICATION; CHEMICAL STRUCTURE; CHOLESTERIC; COMPANIES; COMPANY; CONDUCTIVE PLASTIC; CONDUCTIVE POLYMER; CONJUGATED POLYMER; CONTACT LENS; CONTACT LENSES; CONTROLLED-RELEASE; COPOLYESTER; CURING; DATA; **DENTAL** APPLICATION; DOPING; DRUG DELIVERY; DRUG RELEASE;

ELASTOMER; ELECTRICAL APPLICATION; ELECTRICAL CONDUCTIVITY; ELECTRICAL PROPERTIES; ELECTRONIC APPLICATION; ENGINEERING APPLICATION; ENGINEERING PLASTIC; EPOXIDATION; ESTER COPOLYMER; FLUOROPOLYMER; GLYCOLIC ACID COPOLYMER; IMIDE POLYMER; IMPLANT; INSTITUTION; ISOPRENE POLYMER; LACTIC ACID COPOLYMER; LENS; LENSES; LIGHT CURING; LIQUID CRYSTAL POLYMER; LYOTROPIC; MEDICAL APPLICATION; MESOGENIC; MODIFICATION; MOLECULAR STRUCTURE; NEMATIC; NYLON; NYLON-6; NYLON-6-6; OLEFIN POLYMER; OPTICAL PROPERTIES; PBTP; PEEK; PEI; PETP; PHARMACEUTICAL APPLICATION; **PHENYLENE** OXIDE POLYMER; **PHENYLENE** POLYMER; PHOTOSENSITIVITY; PLASTIC; PMMA; POLY-P- **PHENYLENE** ; POLYACETAL; POLYACETYLENE; POLYACRYLATE; POLYALKENE; POLYAMIDE; POLYAMIDE IMIDE; POLYAMIDE-6; POLYAMIDE-IMIDE; POLYAMIDEIMIDE; POLYARYLATE; POLYBUTYLENE TEREPHTHALATE; POLYCARBONATE; POLYETHER-ETHERKETONE; POLYETHERETHERKETONE; POLYETHERIMIDE; POLYETHYLENE TEREPHTHALATE; POLYGLYCIDYL METHACRYLATE; POLYGLYCOLIC ACID; POLYIMIDE; POLYISOPRENE; POLYMERISATION; POLYMERIZATION; POLYMETHYL METHACRYLATE; POLYOLEFIN; **POLYPHENYLENE** ; **POLYPHENYLENE ETHER** ; **POLYPHENYLENE** OXIDE; **POLYPHENYLENE** SULFIDE; **POLYPHENYLENE** SULPHIDE; POLYPYRROLE; POLYSTYRENE; POLYSULFONE; POLYSULPHONE; POLYTHIOPHENE; POLYURETHANE; POLYVINYL PYRIDINE; POLYVINYL PYRROLIDONE; POLYVINYL SILOXANE; POLYVINYLPYRROLIDONE; PPO; PPS; PROCESS; PROCESSING ; PROPERTIES; PROSTHESIS; PS; PU; PYRROLE POLYMER; RUBBER; SATURATED POLYESTER; SILICONE ELASTOMER; SILICONE RUBBER; SMECTIC; SPECIALTY POLYMER; SULPHONE POLYMER; SURGICAL APPLICATION; TECHNICAL; THERMOPLASTIC; THERMOTROPIC; THIOPHENE POLYMER; UV CURING; VINYL PYRIDINE POLYMER; PET

RAPRA CLASSIFICATION CODE: 4; 43C; 6128; 6S; 981; 99
CATEGORY CODES: KA; KP; OE; QQ; UI; UJ

11/5/13

00501118

TITLE: THERMOPLASTIC FIBRE-REINFORCED COMPOSITES FOR DENTISTRY . **II. EFFECT OF MOISTURE ON FLEXURAL PROPERTIES OF UNIDIRECTIONAL COMPOSITES**

AUTHOR(S): Jancar J; Dibenedetto A T; Goldberg A J
CORPORATE SOURCE: Connecticut,University

SOURCE: Journal of Materials Science.Materials in Medicine; 4, No.6, Dec.1993, p.562-8
JOURNAL ANNOUNCEMENT: 199403 RAPRA UPDATE: 199404
DOCUMENT TYPE: Journal Article
LANGUAGE: English
SUBFILE: (R) RAPRA

ABSTRACT: A study was made of the effect of a deterioration of matrix and fibre-matrix interface, caused by moisture, on the flexural properties of unidirectional E-glass fibre-reinforced thermoplastic composites intended as metal wire replacements for the treatment of teeth misalignments. The matrices studied were polycarbonate, polyethylene terephthalate glycol and nylon 12. Specimens prepared from pultruded prepregs were tested in directions parallel and perpendicular to the fibre orientation as moulded and after immersion in water at 85C for 100 hours. No significant reduction in longitudinal properties, controlled by fibre behaviour, resulted from water exposure, but there was a significant reduction in transverse properties controlled by matrix and interface behaviour. Polycarbonate/bare E-glass fibre

composites annealed at 275C for 1 hour before immersion in water showed superior resistance to moisture attack. 35 refs.
SUBJECT HEADING (RAPRA): REINFORCED CARBONATE POLYMERS, glass fibre, flexural properties, permeability, **dental** applications; REINFORCED ETHYLENE TEREPHTHALATE POLYMERS, glass fibre, flexural properties, permeability, **dental** applications; REINFORCED AMIDE POLYMERS, glass fibre, permeability, flexural properties, **dental** applications; COMPOSITES, GRP, **dental** applications, permeability, flexural properties, carbonate polymers, PETP, amide polymers; FLEXURAL PROPERTIES, **dental** applications, composites, GRP, reinforced plastics , amide polymers, PETP, carbonate polymers; **DENTAL** APPLICATIONS, composites, GRP, reinforced plastics, amide polymers, PETP, carbonate polymers, permeability, flexural properties; PERMEABILITY, moisture, composites, reinforced plastics, GRP, amide polymers, PETP, carbonate polymers, **dental** applications
IDENTIFIERS (Non-Polymer Terms): WATER
GEOGRAPHIC LOCATION: USA
DESCRIPTORS: ADHESION; ANALYSIS; ANNEAL; BEAM ANALYSIS; COMPANY; COMPOSITE; CRYSTALLINITY; DATA; **DENTAL** APPLICATION; E-GLASS; **ELASTIC MODULUS** ; EQUATION; EXPOSURE TIME; FIBRE ORIENTATION; FLEXURAL MODULUS; FLEXURAL PROPERTIES; FLEXURAL STRENGTH; GLASS FIBRE-REINFORCED PLASTIC; GRAPH; GRP; HEAT TREATMENT; IMMERSION; INTERFACE; INTERFACIAL ADHESION; INTERFACIAL PROPERTIES; INTERPHASE; LOADING; LONGITUDINAL; MATRIX; MECHANICAL PROPERTIES; METAL REPLACEMENT; MOISTURE; MOISTURE PERMEABILITY; MOISTURE RESISTANCE; NYLON-12; **ORTHODONTIC** BRACE; PETG; PETP; PLASTIC; **POLYAMIDE** ; **POLYAMIDE-12** ; POLYCARBONATE; POLYETHYLENE GLYCOL TEREPHTHALATE; POLYETHYLENE TEREPHTHALATE; POLYETHYLENE TEREPHTHALATE GLYCOL; PREPREG; PULTRUSION; REINFORCED PLASTIC; REINFORCED THERMOPLASTIC; STRAIN; TABLES; TECHNICAL; TEMPERATURE; TEST; TEST SPECIMEN; THEORY; THERMOPLASTIC; THICKNESS; TRANSCRYSTALLINE; TRANSVERSE; TRANSVERSE PROPERTIES; UNIDIRECTIONAL; WATER PERMEABILITY; WETTING; **YIELD STRENGTH** ; **YOUNGS MODULUS** ; FIBER ORIENTATION; GLASS FIBER-REINFORCED PLASTIC; PET
RAPRA CLASSIFICATION CODE: 43C112; 43C12; 43C32(12); 6272; 6S9; 93511T; 9516T
CATEGORY CODES: QQ; OK; UE; UG; KQ; KR

11/5/19
DIALOG(R)File 323:RAPRA Rubber & Plastics

00414710
TITLE: SHEAR PROPERTIES OF SOME DENTAL AND OTHER POLYMERS
AUTHOR(S): Somerton M; Braden M; Ward I M; Woods D W
CORPORATE SOURCE: LEEDS,UNIVERSITY; LONDON,UNIVERSITY
SOURCE: Biomaterials; 12, No.1, Jan.1991, p.13-6
ISSN: 0142-9612
CODEN: BIMADU JOURNAL ANNOUNCEMENT: 199104 RAPRA UPDATE: 199106
DOCUMENT TYPE: Journal Article
LANGUAGE: English
SUBFILE: (R) RAPRA
ABSTRACT: The **shear modulus** and **elastic** limit in shear were determined for a number of polymers of clinical interest using a static torsion method. Ultra-high modulus PE was studied as a function of draw ratio, and compared with corresponding **Young** 's **modulus** data. Commercially available rods made from PMMA, polycarbonate, PS, PTFE and

nylon 66 were also studied. 8 refs.
SUBJECT HEADING (RAPRA): SHEAR PROPERTIES, PE, **dental** resins; **DENTAL** APPLICATIONS, PE
GEOGRAPHIC LOCATION: EUROPEAN COMMUNITY; UK; WESTERN EUROPE
DESCRIPTORS: CALCULAT; DATA; **DENTAL** APPLICATION; DRAW RATIO; ETHYLENE POLYMER; GRAPH; MECHANICAL PROPERTIES; METHYL METHACRYLATE POLYMER; NYLON 66; PE; PLASTIC; PMMA; **POLYAMIDE** -6,6; POLYCARBONATE; PS; PTFE; SHEAR PROPERTIES; STYRENE POLYMER; TABLES; TECHNICAL; TEST; TESTING; TETRAFLUOROETHYLENE **POLYMER** ; THEORY; **THERMOPLASTIC** ; TORSION; **YOUNG 'S MODULUS**
RAPRA CLASSIFICATION CODE: 42C11;6S9;95112T
CATEGORY CODES: QQ; UG; KE

11/5/22
DIALOG(R)File 323:RAPRA Rubber & Plastics

00405490
TITLE: OPTICAL AND THERMAL PROPERTIES IN EXPERIMENTAL BIS-GMA-BASED RESINS INFLUENCED BY FILLER CHARACTERISTICS
AUTHOR(S): Urabe H; Wakasa K; Yamaki M
CORPORATE SOURCE: HIROSHIMA,UNIVERSITY
SOURCE: Journal of Materials Science.Materials in Medicine; 1, No.1, June 1990, p.55-9
JOURNAL ANNOUNCEMENT: 199012 RAPRA UPDATE: 199022
DOCUMENT TYPE: Journal Article
LANGUAGE: English
SUBFILE: (R) RAPRA
ABSTRACT: Visible light cured composite resins were prepared from triethylene glycol dimethacrylate, 2, 2-bis(3-methacryloxy-2-hydroxypropoxy- **phenylene**)propane, camphorquinone, dimethylaminoethyl methacrylate and various fillers. Light transmittance and refractive index of the resins as well as the depth and rate of cure are related to filler type (silica, silica-alumina and alumina), filler treatment (hexamethyl disilazane and methacryloxypropyltrimethoxysilane), filler content and particle size. 15 refs.
SUBJECT HEADING (RAPRA): **DENTAL** APPLICATIONS, composite resins, fillers, light curing, optical properties
IDENTIFIERS (Non-Polymer Terms): ALUMINA; ALUMINIUM OXIDE; CAMPHORQUINONE; SILICA; SILICA ALUMINATE; ALUMINUM OXIDE
GEOGRAPHIC LOCATION: JAPAN
DESCRIPTORS: BISPHENOL POLYMER; COMPANIES; COMPANY; COMPOSITE; CURE RATE; DATA; **DENTAL** APPLICATION; DIFFERENTIAL THERMAL ANALYSIS; DSC; ETHYLENE GLYCOL DIMETHACRYLATE COPOLYMER; FILLER; GRAPH; HARDNESS; LIGHT CURING; LIGHT TRANSMISSION; REFRACTIVE INDEX; REVIEW; TABLES; TECHNICAL; THEORY; THERMOSET; TRANSPARENCY; TRIETHYLENE GLYCOL DIMETHACRYLATE COPOLYMER; UNSATURATED POLYESTER
RAPRA CLASSIFICATION CODE: 42D5;51S;6S9;895
CATEGORY CODES: QQ; SJ

11/5/23
DIALOG(R)File 323:RAPRA Rubber & Plastics

00389393
TITLE: CREEP STUDIES OF MULTIPHASE ACRYLIC SYSTEMS
AUTHOR(S): Oysaed H; Ruyter I E
CORPORATE SOURCE: SCANDINAVIAN INSTITUTE OF DENTAL MATERIALS
SOURCE: Journal of Biomedical Materials Research; 23, No.7, July 1989, p.719-33
ISSN: 0021-9304
CODEN: JBMRBG JOURNAL ANNOUNCEMENT: 199003 RAPRA UPDATE: 199003
DOCUMENT TYPE: Journal Article
LANGUAGE: English
SUBFILE: (R) RAPRA
ABSTRACT: Samples were prepared by heat polymerisation at 100C or autopolymerisation at 45C of mixtures of methyl methacrylate monomer with PMMA powder and one of six difunctional methacrylate crosslinking agents. Constant **tensile stress** tests showed higher creep values for autopolymerised than for heat polymerised materials. In heat polymerised materials the creep curves showed little variation with type and quantity of crosslinking agents at low stress levels, but at high stress levels creep values decreased with increasing quantity of crosslinking agent. Autopolymerised samples showed greater variation in creep. Autopolymerised samples containing diethylene glycol dimethacrylate differed from the others by showing higher creep values. 21 refs.
SUBJECT HEADING (RAPRA): CREEP, **dental** materials, PMMA, crosslinking; **DENTAL** APPLICATIONS, creep, acrylic polymers, crosslinking, methyl methacrylate copolymers; METHYL METHACRYLATE POLYMERS, creep, **dental** applications, crosslinking
IDENTIFIERS (Non-Polymer Terms): DIMETHACRYLATE
GEOGRAPHIC LOCATION: NORWAY
DESCRIPTORS: AUTOPOLYMERISATION; BLEND; COMPANY; COMPANIES; CREEP; CROSSLINK DENSITY; CROSSLINKING AGENT; CURING AGENT; DATA; **DENTAL** APPLICATION; DIMETHACRYLATE COPOLYMER; GLYCOL METHACRYLATE COPOLYMER; MECHANICAL PROPERTIES; PLASTIC; PMMA; METHYL METHACRYLATE POLYMER; REVIEW; TECHNICAL; TENSILE PROPERTIES; THEORY; THERMAL **POLYMERISATION** ; **THERMOPLASTIC** ; AUTOPOLYMERIZATION; THERMAL **POLYMERIZATION**
RAPRA CLASSIFICATION CODE: 42C35121;6S9;9512
CATEGORY CODES: UG; QQ; KK

11/5/24
DIALOG(R)File 323:RAPRA Rubber & Plastics

00389287
TITLE: DYNAMIC MECHANICAL THERMAL ANALYSIS OF DENTAL **POLYMERS. I. HEAT CURED PMMA-BASED MATERIALS**
AUTHOR(S): Clarke R L
CORPORATE SOURCE: LONDON HOSPITAL MEDICAL COLLEGE
SOURCE: Biomaterials; 10, No.7, Sept.1989, p.494-8
ISSN: 0142-9612
CODEN: BIMADU JOURNAL ANNOUNCEMENT: 199003 RAPRA UPDATE: 199003
DOCUMENT TYPE: Journal Article
LANGUAGE: English
SUBFILE: (R) RAPRA
ABSTRACT: The viscoelastic properties of homogeneous, heterogeneous and fibre-reinforced PMMA for use as denture base resins were determined using dynamic mechanical thermal analysis in the frequency range 0.033

to 90Hz. Dynamic **Young** 's **modulus** of PE woven yarn and polyaramid plain fabric-reinforced PMMA samples exhibited considerable improvement over the conventional **dental** base, whereas carbon fibre-reinforced PMMA produced results lower than expected. 14 refs.
SUBJECT HEADING (RAPRA): **DENTAL** APPLICATIONS, reinforced PMMA, viscoelastic properties; VISCOELASTIC PROPERTIES, **dental** applications, reinforced PMMA; REINFORCED METHYL METHACRYLATE POLYMERS , **dental** applications, reinforced PMMA
TRADE NAMES: PERSPEX
GEOGRAPHIC LOCATION: UK; EUROPEAN COMMUNITY
DESCRIPTORS: ARAMID FIBRE; CFRP; CARBON FIBRE-REINFORCED PLASTIC; COMPOSITE ; DATA; **DENTAL** APPLICATION; DMA; DYNAMIC MECHANICAL ANALYSIS; DYNAMIC MECHANICAL PROPERTIES; FREQUENCY; HETEROGENEOUS; HETEROGENEITY; HOMOGENEOUS; HOMOGENEITY; MECHANICAL PROPERTIES; PE; ETHYLENE POLYMER; PLASTIC; PMMA; METHYL METHACRYLATE **POLYMER** ; REINFORCED **THERMOPLASTIC** ; SYNTHETIC FIBRE-REINFORCED PLASTIC; TECHNICAL; TEST; TESTING; VISCOELASTIC PROPERTIES; **YOUNG** 'S **MODULUS** ; ARAMID FIBER; CARBON FIBER-REINFORCED PLASTIC; SYNTHETIC FIBER-REINFORCED PLASTIC
RAPRA CLASSIFICATION CODE: 42C35121;627;6S9;951T
CATEGORY CODES: QQ; OK; KK; UG

11/5/26
DIALOG(R)File 323:RAPRA Rubber & Plastics

00217987
TITLE: HAVING PROBLEMS WITH HIGH TEMPERATURE, HIGH CORROSIVE APPLICATIONS? TRY POLYPHENYLENE **SULPHIDE**
SOURCE: Plastics Design and Processing; 22, No.4, June/July 1982, p.22-3
JOURNAL ANNOUNCEMENT: 198211 RAPRA UPDATE: 198207
DOCUMENT TYPE: Journal Article
LANGUAGE: English
ABSTRACT: **Polyphenylene** sulphide features both good flow properties and good insulation properties, and is suitable for many applications involving high temperatures and highly abrasive and corrosive environments. These include electrical and electronic applications, automotive components, and **dental** instruments. This article discusses the range of applications, and also considers processing parameters.
IDENTIFIERS (Non-Polymer Terms): SULPHIDE; SULFIDE
DESCRIPTORS: APPLICATIONS; FLOW PROPERTIES; AUTOMOTIVE APPLICATION; ENVIRONMENT; ELECTRONIC APPLICATION; **POLYPHENYLENE** SULPHIDE; **DENTAL** APPLICATION; **POLYPHENYLENE** ; TEMPERATURE; INSULATION PROPERTIES; CORROSION RESISTANCE; ABRASION RESISTANCE; ELECTRICAL APPLICATION; **POLYPHENYLENE** SULFIDE
RAPRA CLASSIFICATION CODE: 43C52

11/5/27
DIALOG(R)File 323:RAPRA Rubber & Plastics

00135334
TITLE: PROBLEMS WITH POLYMERS IN DENTISTRY
AUTHOR(S): GRANT A
SOURCE: British Polymer Journal; 10, No.4, Dec.1978, p.241-4
JOURNAL ANNOUNCEMENT: 197908 RAPRA UPDATE: 198201

DOCUMENT TYPE: Journal Article
LANGUAGE: English
ABSTRACT: THE LOW ABRASION RESISTANCE AND LACK OF RADIOPACITY HAVE PROVED TO BE A PROBLEM WITH **RIGID POLYMERS** (COMMONLY PMMA). DENTURE LINERS MADE OF RESILIENT POLYMERS MAY BOND POORLY TO THE DENTURE BASE AND PHYSICAL PROPERTIES MAY CHANGE IN USE. THE USE OF POLYMER/CERAMIC COMPOSITES HAS PARTIALLY OVERCOME PROBLEMS WITH FILLING MATERIALS. PRESENT BONDING SYSTEMS FOR **DENTAL** CEMENT APPLICATIONS INCLUDE UNFILLED DIMETHACRYLATES WHICH DO NOT ATTACH TO DENTINE. POLYACRYLIC ACID AND COPOLYMERS BOND TO CALCIUM IN THE TOOTH, BUT BOND POORLY TO DENTINE. HYDROLYTIC STABILITY IS ALSO SUSPECT. 19 REFS. (POLYMERIC BIOMEDICAL MATERIALS SYMPOSIUM, MANCHESTER, 18-19 APRIL 1978).
IDENTIFIERS (Non-Polymer Terms): DIMETHACRYLATE
DESCRIPTORS: ABRASION RESISTANCE; COMPOSITE; HYDROLYTIC STABILITY; POLYACRYLIC ACID; MECHANICAL PROPERTIES; PMMA; BOND; MEDICAL APPLICATION; LINER; **DENTAL** APPLICATION; PHYSICAL PROPERTIES; DENTURE; BIOCOMPATIBILITY
RAPRA CLASSIFICATION CODE: 6S9

11/5/29
DIALOG(R)File 323:RAPRA Rubber & Plastics

00103826
TITLE: ORGANOLITHIC MACROMOLECULAR MATERIALS. LONDON, APPLIED SCIENCE PUBLISHERS LTD., 1977
AUTHOR(S): WILSON A D; CRISP S
SOURCE: pp.IX, 298, ILLUS. #16.00. 9ins. 4/4/77. R.ROOM. 011
JOURNAL ANNOUNCEMENT: 197710 RAPRA UPDATE: 198201
DOCUMENT TYPE: Books
LANGUAGE: English
ABSTRACT: MACROMOLECULAR MATERIALS WHICH ARE HYBRIDS OF ORGANIC POLYMERS AND SILICATE SUBSTANCES ARE KNOWN AS THE ORGANOLITHIC MACROMOLECULAR MATERIALS. EXAMPLES OF THESE MATERIALS RANGING FROM **RIGID** IONIC **POLYMERS** TO SILICONE LIKE RUBBERS AND GREASES ARE FOUND IN CIVIL ENGINEERING AND IN **DENTISTRY** . AN ATTEMPT IS MADE TO DEFINE AND CATEGORISE THESE MATERIALS. 300 REFS.
DESCRIPTORS: EPOXY RESIN; TG; RUBBER; POLYSILOXANE; MECHANICAL PROPERTIES; TENSILE STRENGTH; STRESS RELAXATION; CEMENT; RIGID; **DENTAL** APPLICATION; SOIL TREATMENT; THERMOMECHANICAL PROPERTIES; CIVIL ENGINEERING
RAPRA CLASSIFICATION CODE: 011
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NPL Full-Text Database Search

Search Strategy

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Set     Items   Description
S1     261591   DENTAL? OR DENTIST? OR ORTHODONT? OR PROSTHODONT? OR (ORTHO
             ·OR PROSTHO)()DONTIC? OR ODONTOLOG?
S2      10488   ARYLEN? OR POLYARYLEN? OR HETEROARYLEN? OR POLYHETEROARYLE-
             N? OR PARMAX OR POLY()X OR PHENYLEN? OR PARAPHENYLEN? OR POLY-
             PHENYLEN? OR RIGID(3W)(POLYMER? OR COPOLYMER? OR HOMOPOLYMER?)
S3     143421   (THERMOPLASTIC? OR THERMO()PLASTIC?)(3N)(POLYMER? OR COPOL-
             YMER? OR HOMOPOLYMER? OR MATERIAL? ?) OR POLYVINYL()(CHLORIDE?
              OR ALCOHOL) OR POLYAMIDE? OR POLYFLUOROCARBON? OR POLYOLEFIN?
              OR POLYSTYRENE?
S4      18920   UNREINFORC? OR UNREENFORC? OR ("NOT" OR NONE OR NO OR UN OR
              WITHOUT OR "WITH"()OUT OR NON)(2W)(REINFORC? OR REENFORC? OR
             STRENGTHEN?)
S5      26190   TENSILE(2N)(STRENGTH OR STRESS) OR (YIELD OR ULTIMATE OR B-
             REAKING)()STRENGTH
S6       8287   (TENSILE OR ELASTIC? OR YOUNG? ? OR SHEAR OR BULK)(2N)(MOD-
             ULUS OR MODULI)
S7    1275603   PASCAL? ? OR MEGAPASCAL? ? OR GIGAPASCAL? ? OR PA OR MPA OR
              GPA OR PSI
S8      14015   NEWTON? ?(2W)(MILLIMET? OR METRE? ? OR METER? ?) OR MEGANE-
             WTON? ?(2W)(METER? ? OR METRE? ?) OR POUND? ?(2W)(INCH OR INC-
             HES)
S9          7   S1(S)S2
S10         6   RD  (unique items)
S11      4540   S5(5N)S7:S8
S12      1403   S6(5N)S7:S8
S13         0   S1(S)S2:S3(S)S4(S)S11:S12
S14         0   S1(S)S2:S3(S)S11:S12
S15         2   S1(S)S2:S3(S)S5:S6
S16         2   S15 NOT S9
S17        92   S1(S)S3
S18        23   S1(10N)S3
S19        23   S18 NOT (S9 OR S16)
S20        19   RD  (unique items)

File   9:Business & Industry(R) Jul/1994-2006/Sep 11
         (c) 2006  The Gale Group
File  16:Gale Group PROMT(R) 1990-2006/Sep 11
         (c) 2006 The Gale Group
File 160:Gale Group PROMT(R) 1972-1989
         (c) 1999 The Gale Group
File 148:Gale Group Trade & Industry DB 1976-2006/Sep 11
         (c)2006 The Gale Group
File 621:Gale Group New Prod.Annou.(R) 1985-2006/Sep 11
         (c) 2006 The Gale Group
File 441:ESPICOM Pharm&Med DEVICE NEWS 2006/Mar W4
         (c) 2006 ESPICOM Bus.Intell.
File 149:TGG Health&Wellness DB(SM) 1976-2006/Sep W1
         (c) 2006 The Gale Group
File  15:ABI/Inform(R) 1971-2006/Sep 12
         (c) 2006 ProQuest Info&Learning
File 624:McGraw-Hill Publications 1985-2006/Sep 12
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Search Results

20/3,K/6 (Item 4 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

07544923 Supplier Number: 63267615 (USE FORMAT 7 FOR FULLTEXT)
Biomaterials technology broadens into biological and pharma areas. (Brief Article)
BERG, JEFFREY
The BBI Newsletter, v23, n7, p149
July, 2000
Language: English Record Type: Fulltext
Article Type: Brief Article
Document Type: Newsletter; Trade
Word Count: 2002

... developed PEEK (polyaryletheretherketone)-Optima LT, a replacement for titanium or stainless steel in orthopedic and **dental** implants. This high-performance, **thermoplastic** biocompatible **polymer** is radio-modulus as bone. The company anticipates receiving FDA clearance by the end of...

20/3,K/8 (Item 1 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)

01794949
Unitika Develops New Dental Material
Comline Biotechnology & Medical September 30, 1987 p. 3

...Ltd. (3103) and dental material manufacturer Shofu Inc. have jointly developed "Heat Form," a new **dental material** made from a **thermoplastic** resin with a low melting point. To construct an artificial tooth, a sheet of Heat...

20/3,K/10 (Item 1 from file: 149)
DIALOG(R)File 149:TGG Health&Wellness DB(SM)

01879853 SUPPLIER NUMBER: 58614499 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Evaluation of Variable Mandibular Advancement Appliance for Treatment of Snoring and Sleep Apnea(*).
Pancer, Jeffrey; Al-Faifi, Salem; Al-Faifi, Mohamed; Hoffstein, Victor
Chest, 116, 6, 1511
Dec,
1999
PUBLICATION FORMAT: Magazine/Journal; Refereed ISSN: 0012-3692
LANGUAGE: English RECORD TYPE: Fulltext TARGET AUDIENCE: Professional
WORD COUNT: 4953 LINE COUNT: 00482

... of 16 mm advancement of the lower jaw. These arches are made of shells containing **thermoplastic material** that becomes soft when placed in boiling water. The **dentist** inserts the warm arches into the patient's mouth to obtain an impression. The arches...

20/3,K/15 (Item 3 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)

04717116 Supplier Number: 63267615 (USE FORMAT 7 FOR FULLTEXT)
Biomaterials technology broadens into biological and pharma areas.
BERG, JEFFREY
The BBI Newsletter, v23, n7, p149
July, 2000
Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 2002

... développed PEEK (polyaryletheretherketone)-Optima LT, a replacement for titanium or stainless steel in orthopedic and **dental** implants. This high-performance, **thermoplastic** biocompatible **polymer** is radio-modulus as bone. The company anticipates receiving FDA clearance by the end of...
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